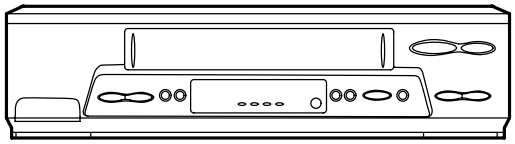
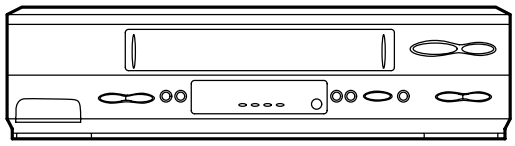
SHARP SERVICE MANUAL

S62L3VC-A10//



VC-A500



VC-A10/A10S/A50/A50S/
A50S(B)/A60/A75/A80S

VHS VIDEO CASSETTE PLAYER

MODELS

VC-A10/A10S
VC-A50/A50S/A50S(B)
VC-A500
VC-A60
VC-A75
VC-A80S

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

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SHARP CORPORATION

PRECAUTIONS IN PART REPLACEMENT

When servicing the unit with power on, be careful to the section marked white all over.
This is the primary power circuit which is live.
When checking the soldering side in the tape travel mode, make sure first that the tape has been loaded and then turn over the PWB with due care to the primary power circuit.
Make readjustment, if needed after replacement of part, with the mechanism and its PWB in position in the main frame.

(1) Start and end sensors: Q701 and Q702

Insert the sensor's projection deep into the upper hole of the holder. Referring to the PWB, fix the sensors tight enough.

(2) Photocoupler: IC901 and IC902

Refer to the symbol on the PWB and the anode marking of the part.

(3) Cam switches A and B: S704.

Adjust the notch of the part to the white marker of the symbol on the PWB. Do not allow any looseness.

(4) Take-up and supply sensors: D707 and D706.

Be careful not to confuse the setting direction of the parts in reference to the symbols on the PWB. Do not allow any looseness.

1. SPECIFICATIONS

Format:	VHS PAL/MESECAM/NTSC standard (except VC-A60) VHS PAL/SECAM/MESECAM/NTSC standard (VC-A60)
Video recording system:	Rotary, slant azimuth two heads helical scan system
Video signal:	PAL colour or monochrome (CCiR system B/G) signals
Maximum Recording/playing time:	240 minutes max. with SHARP E-240 tape at SP mode) 480 minutes max. with SHARP T-160 tape (NTSC: EP mode)
Tape width:	12.7mm
Tape speed:	23.39/33.53 mm/s (PAL/NTSC : SP mode) 11.70/16.67 mm/s (PAL/NTSC: LP mode) 7.79/11.12 mm/s (PAL/NTSC: EP mode)
Antenna:	75 ohm unbalanced
RF converter output signal:	UHF Channel E21-E69 (preset to E60)
Power requirement:	AC110-240V, 50/60Hz
Power consumption:	Approx. 10W (VC-A10/A10S,VC-A50/A50S/A50S(B)/A500/A60) Approx. 12W (VC-A75) Approx. 13W (VC-A80S)
Operating temperature:	5°C to 40°C
Storage temperature:	–20°C to 60°C
VIDEO Output:	1.0 Vp-p, 75 ohm
AUDIO Output:	Line -8 dBs/1k ohm
Weight:	Approx. 2.3 kg
Dimensions:	360 mm (W) x 232 mm (D) x 92 mm (H)
Accessories included:	75 ohm coaxial cable Operation manual Infrared remote control Battery Schematic Diagram (VC-A500)

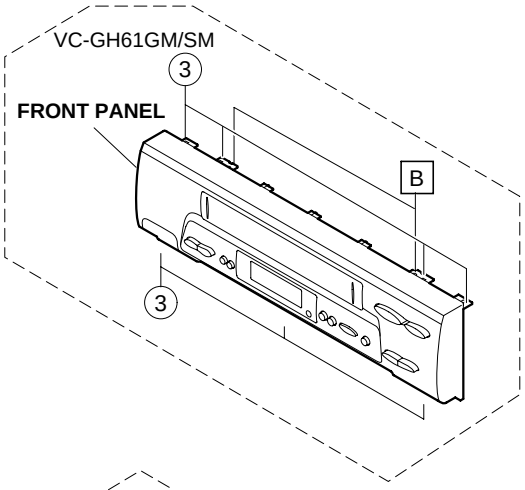
As part of our policy of continuous improvement, we reserve the right to alter design and specifications without notice.

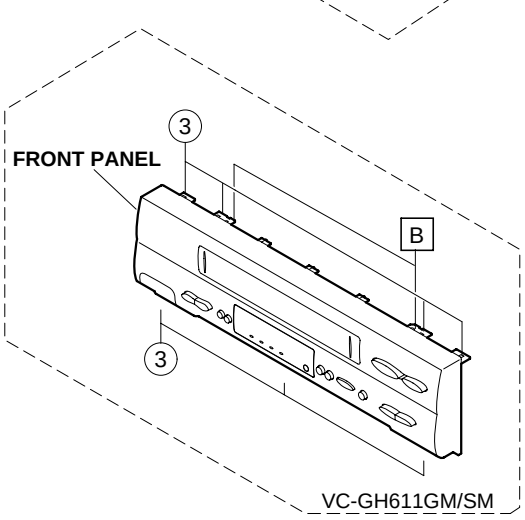
Note: The antenna must correspond to the new standard DIN 45325 (IEC 169 - 2) for combined UHF/VHF antenna with 75 ohm connector.

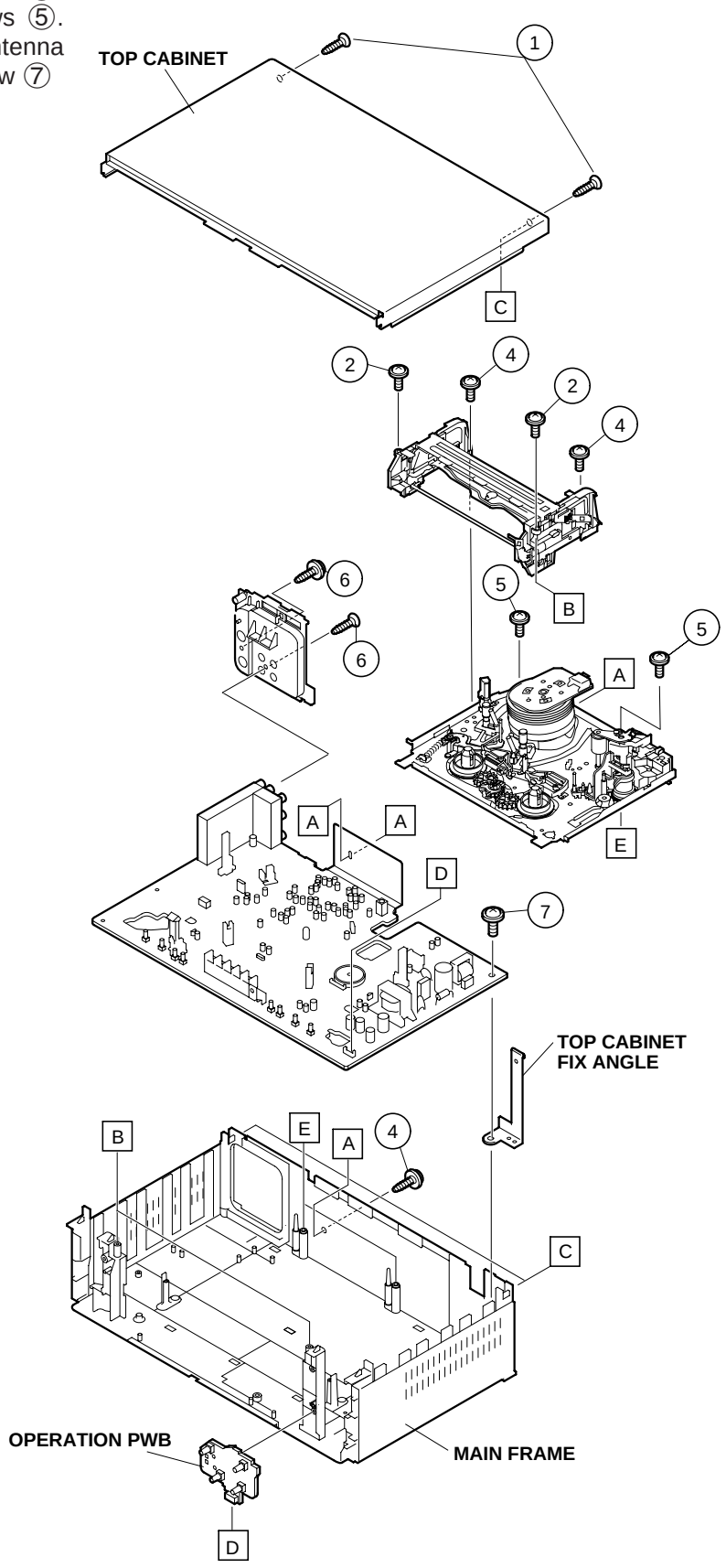
2. DISASSEMBLY AND REASSEMBLY

2-1 DISASSEMBLY OF MAJOR BLOCKS

TOP CABINET : Remove 2 screws ①.
FRONT PANEL : Remove 2 screws ② and 7 clips ③.
MECHANISM/ MAIN PWB : Remove 2 screw ④, 2 screws ⑤. Remove 2 screws ⑥ with antenna terminal cover. Remove 1 screw ⑦ with top cabinet fix angle.



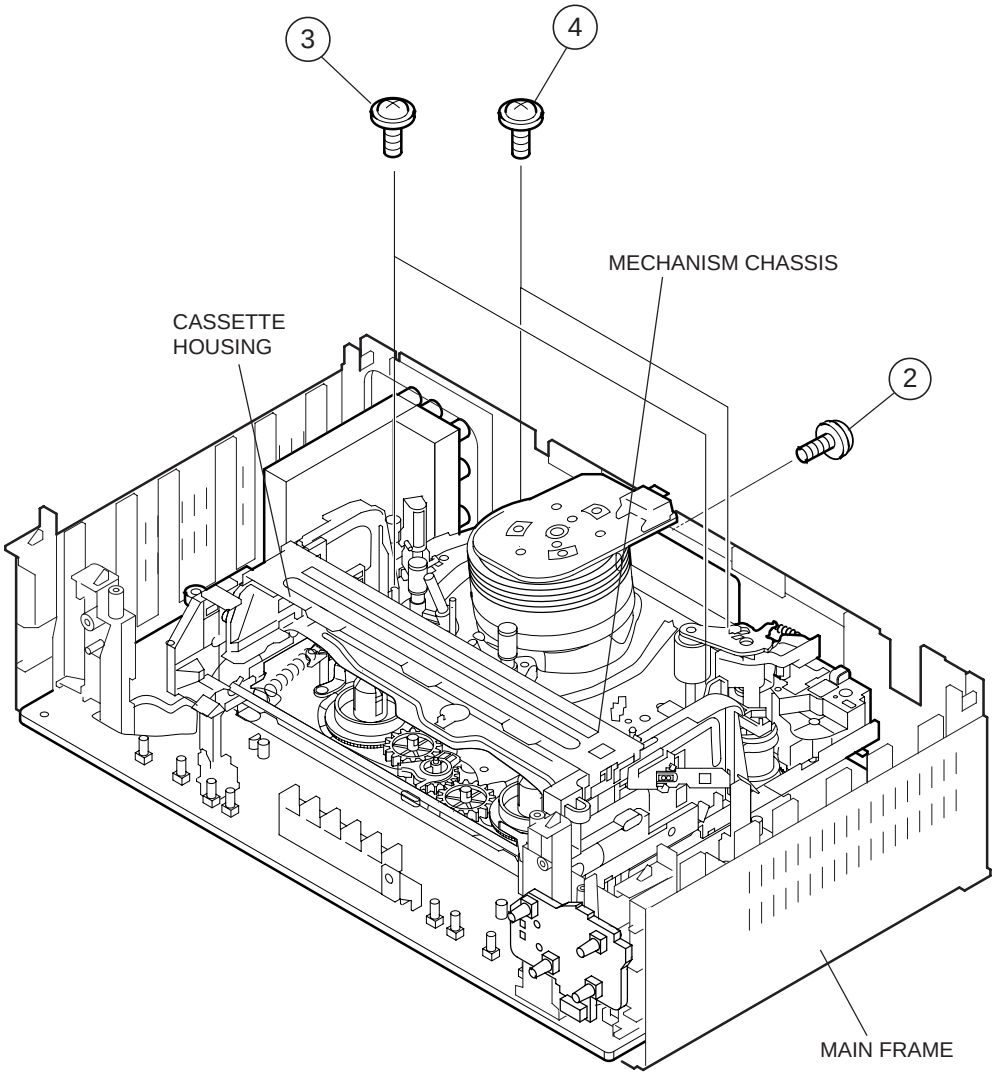




2-2 DISASSEMBLING THE MECHANISM

1. When removing the mechanism from the set.
   Remove the screw ② which connecting the PWB and the mechanism.
   Remove the screw ④ which connecting mechanism and main frame.
   Take out vertically the mechanism so that it does not damage the adjacent parts.

2. Removing the mechanism and cassette housing.
   Remove 2 screws ③ fixing the cassette housing to the mechanism, and remove the cassette housing.



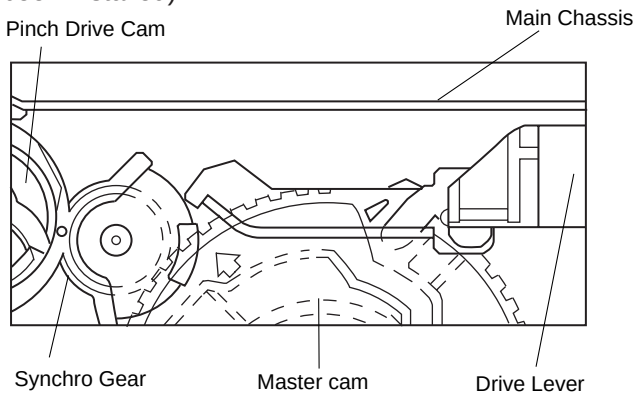
2-3 CARES WHEN REASSEMBLING

INSTALLING THE CASSETTE HOUSING

When the cassette housing is installed on the mechanism, the initial setting is essential condition.
There are two initial setting methods, namely electrical and mechanical.

1. Electrical initial setting

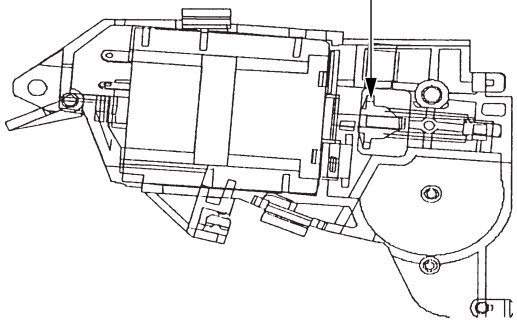
So as to perform initial setting of mechanism execute the Step 1 of Installation of cassette housing. After ascertaining the return to the initial setting position install the cassette housing. (Conditions: When mechanism and PWB have been installed)



2. Mechanical initial setting

- Rotate the worm gear by pushing the flange manually until return to initial position.

Rotate the flange of worm gear by using thin stick.
CW • • • Loading direction
CCW • • • Ejection direction
Note:
Be careful not to damage the gear of worm gear and worm wheel gear. It miight cause a strange sound.



- When apply power supply to rotate the loading motor, please remove/unsolder at least one terminal wire.
- If voltage applied to loading motor without diconnecting the terminal wire, there is a possibility the capstan motor IC will damage.
- The maximum applied voltage is 9V. If more than 9V, there is apossibility the mechanism will damage.
- After ascertaining the return to the initial set position install the cassette housing in the specified position. (This method is applied only for the mechanism.)

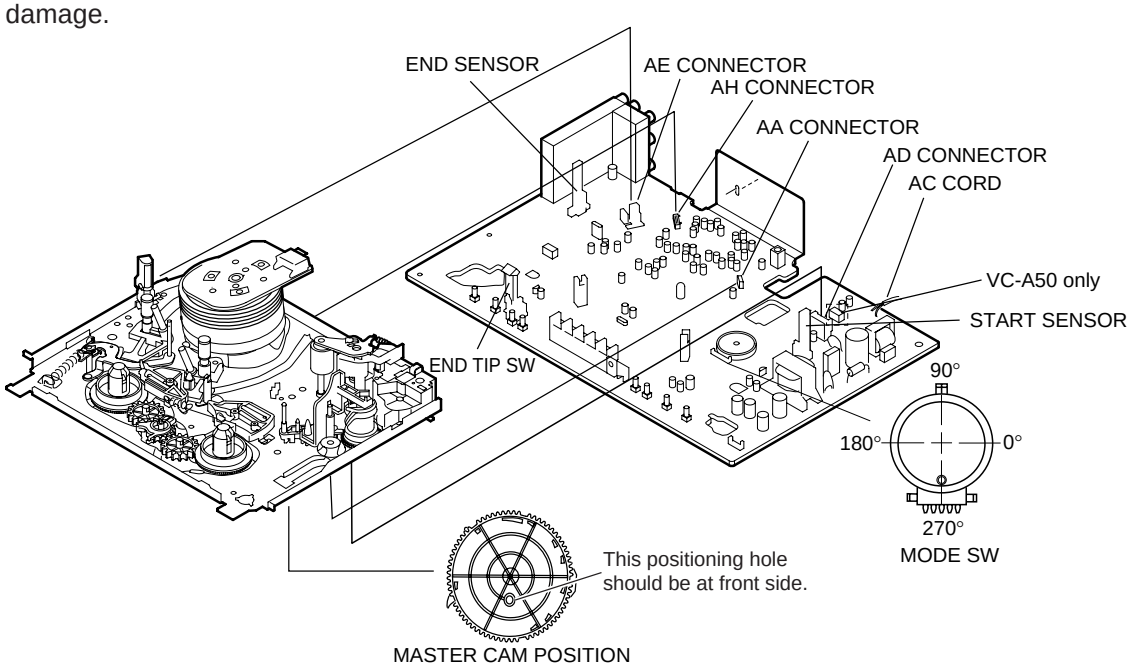
INSTALLING THE MECHANISM ON PWB

Lower vertically the mechanism, paying attention to the mechanism edge mode SW position, (Set the mode SW position to 270° and make sure the master cam position hole also in 270° position) and install the mechanism with due care so that the parts are not damaged.

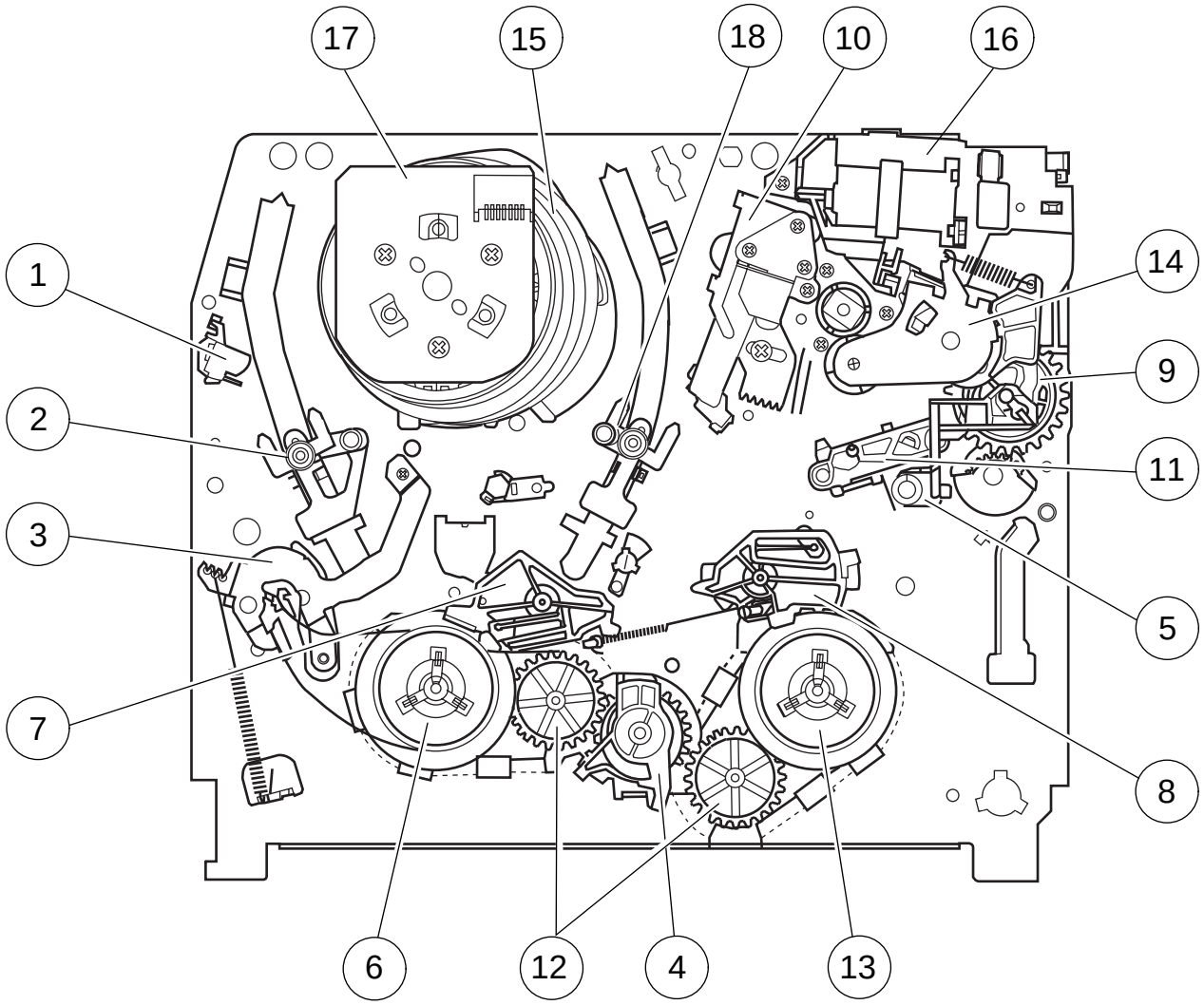
* Please make sure to insert correctly.
  If not, strange moving will occur and will couse mechanism damage.

PARTS WHICH NEED PARTICULAR CARE

When installing the mechanism chassis on the PWB unit, take care so as to prevent deformation due to contact of mechanism chassis with REC TIP SW.



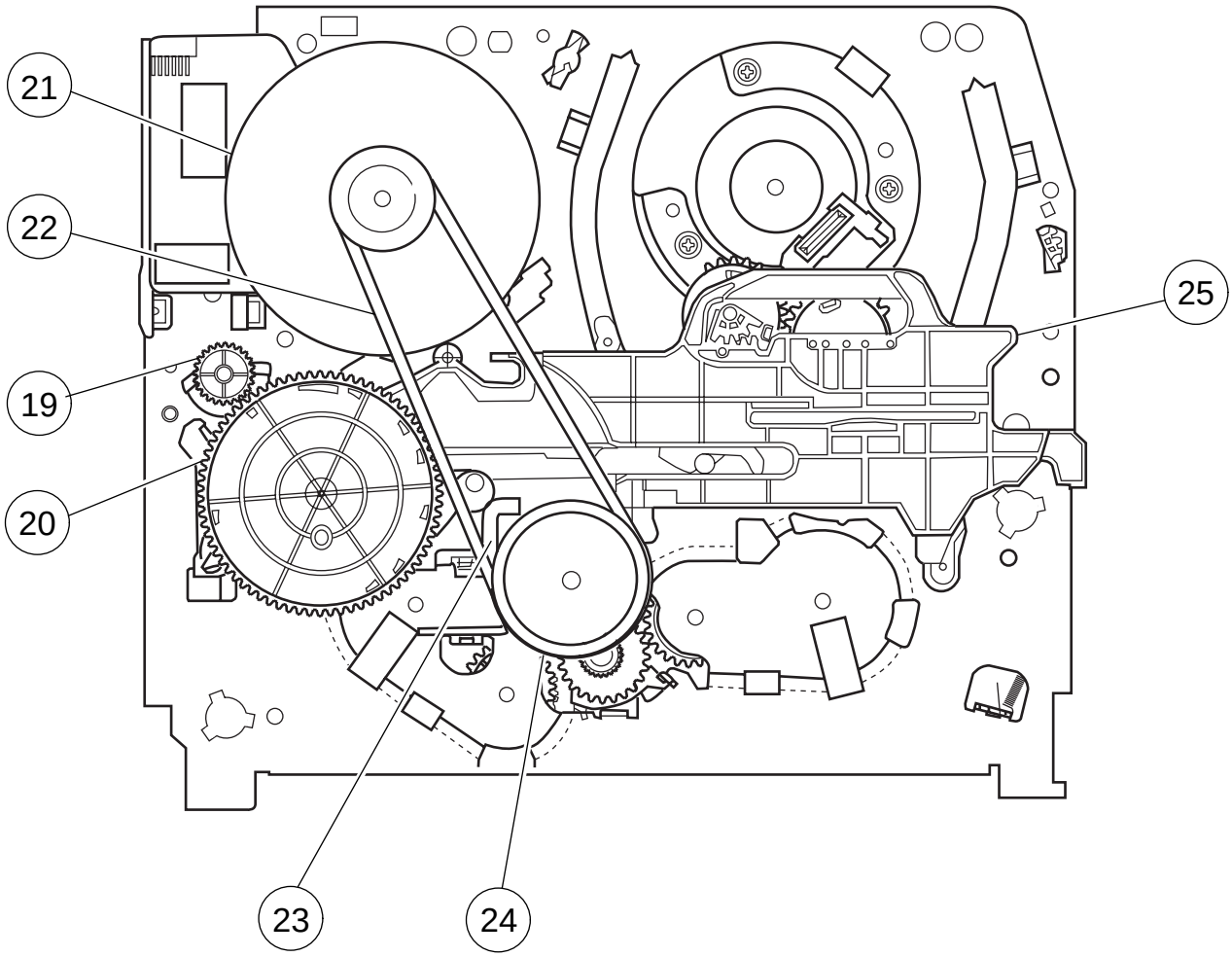
3. FUNCTION OF MAJOR MECHANICAL PARTS (TOP VIEW)



No.	Function	No.	Function
1	Full erase head	11	Reverse guide lever ass'y
2	Supply pole base ass'y	12	Reel relay gear
3	Tension arm	13	Take-up reel disk
4	Idler wheel ass'y	14	Pinch roller lever ass'y
5	Open guide	15	Drum ass'y
6	Supply reel disk	16	Loading motor block
7	Supply main brake	17	Drum driver motor
8	Take-up main brake	18	Take-up pole base ass'
9	Pinch drive cam		
10	A/C head ass'y		

FUNCTION OF MAJOR MECHANICAL PARTS (BOTTOM VIEW)

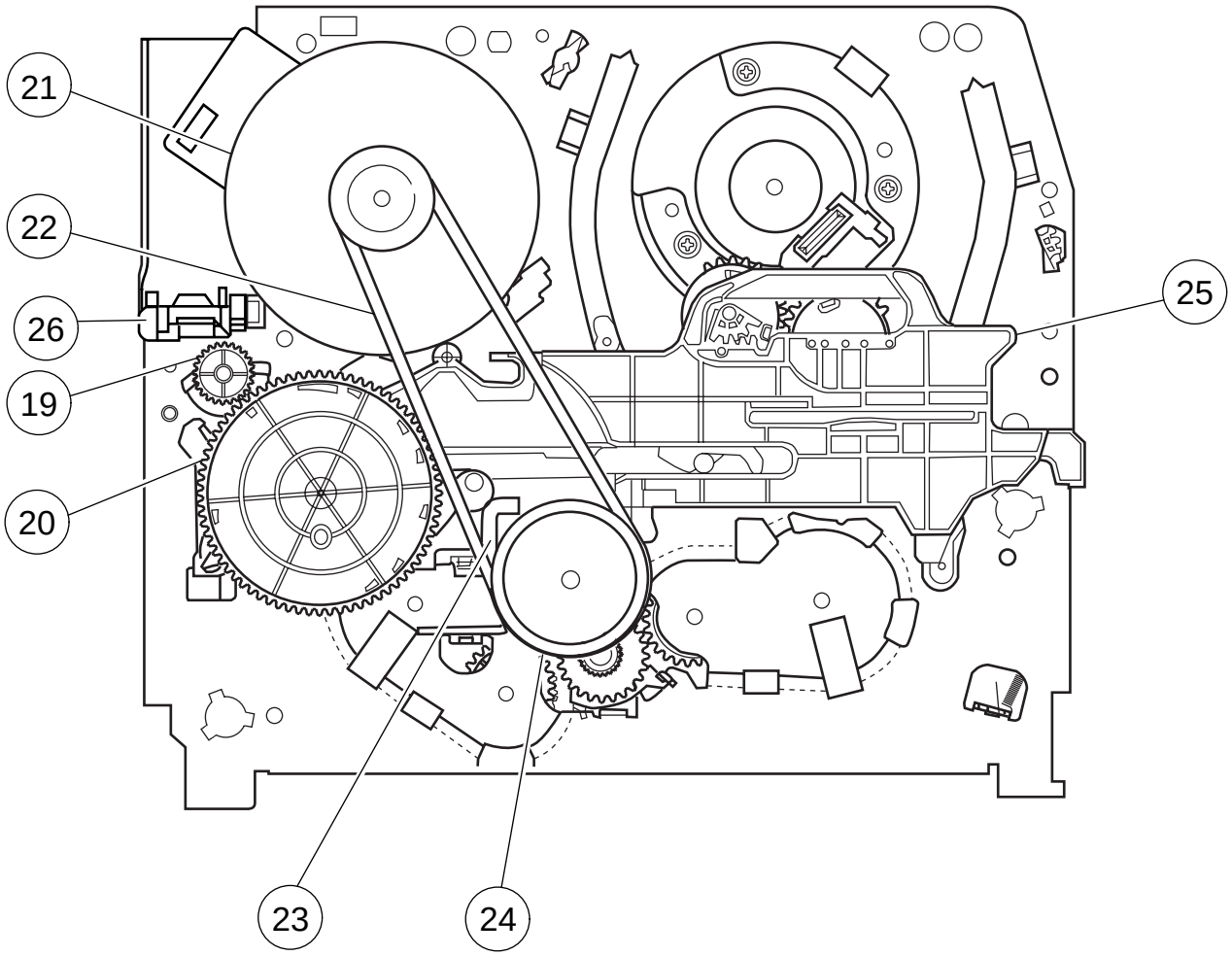
(except VC-A50S)



No.	Function	No.	Function
19	Syncro Gear	23	Clutch lever
20	Master cam	24	Limiter pulley ass'y
21	Capstan D.D. motor	25	Shifter
22	Reel belt		

FUNCTION OF MAJOR MECHANICAL PARTS (BOTTOM VIEW)

(VC-A50S)



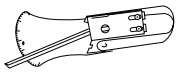
No.	Function	No.	Function
19	Syncro Gear	23	Clutch lever
20	Master cam	24	Limiter pulley ass'y
21	Capstan D.D. motor	25	Shifter
22	Reel belt	26	DM/LM FFC Holder

4. ADJUSTMENT, REPLACEMENT AND ASSEMBLY OF MECHANICAL UNITS

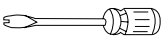
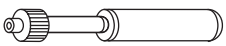
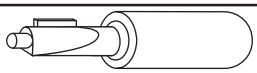
The explanation given below relates to the on-site general service (field service) but it does not relates to the adjustment and replacement which need high-grade equipment, jigs and skill. For example, the drum assembling, replacement and adjustment service must be performed by the person who have finished the technical courses.

4-1 MECHANISM CONFIRMATION ADJUSTMENT JIG

So as to perform completely the mechanism adjustment prepare the following special jigs. So as to maintain the initial performance of the machine the maintenance and check are necessary. Utmost care must be taken so that the tape is not damaged. If adjustment needs any jig, be sure to use the required jig.

No.	Jig Item	Part No.	Code	Configuration	Remarks
1.	Torque Cassette Meter	JiGVHT-063	CZ		This cassette torque meter is used for checking and adjusting the torque of take-up for measuring tape back tension.
2.	Torque Gauge	JiGTG0090	CM		These Jigs are used for checking and adjusting the torque of take-up and supply reel disks.
		JiGTG1200	CN		
3.	Torque Gauge Head	JiGTH0006	AW		
4.	Torque Driver	JiGTD1200	CB		When fixing any part to the threaded hole using resin with screw, use the jig. (Specified torque 5 kg)
5.	Master Plane Jig and Reel Disk Height Adjusting Jig	JiGRH0002	BR		These Jigs are used for checking and adjusting the reel disk height.
		JiGMP0001	BY		
6.	Tension Gauge	JiGSG2000	BS		There are two gauges used for the tension measurements, 300 g and 2.0 kg.
		JiGSG0300	BF		
7.	Pinch pressing force measuring jig	JiGADP003	BK		This Jig is used with the tension gauge. Rotary transformer clearance adjusting jig.
8.	Alignment Tape	VROCPSV	CK		These tapes are especially used for electrical fine adjustment.

Video	Audio	HiFi Audio	Track
625 Monoscope	7k	—	49µm
PAL Colour Bar	1k	—	49µm

9.	Guide roller height adjustment driver	JiGDRiVERH-4	AP		This screwdriver is used for adjusting the guide roller height.
10.	X value adjustment gear driver	JiGDRiVER-6	BM		For X value adjustment
11.	Tension Pole Adjustment Driver	JiGHMEC-M005			This Jig is used for adjustment of tension pole.

4-2 MAINTENANCE CHECK ITEMS AND EXECUTION TIME

Perform the maintenance with the regular intervals as follows so as to maintain the quality of machine.

Parts \ Maintained	500 hrs.	1000 hrs.	1500 hrs.	2000 hrs.	Possible symptom encountered	Remarks
Guide roller ass'y	□	□	□	□	Lateral noises Head occasionally blocked	Abnormal rotation or significant vibration requires replacement.
Sup guide shaft	□	□	□	□		Clean tape contact part with the specified cleaning liquid.
Reverse guide	□	□	□	□		
Slant pole on pole base	□	□	□	□		
Full erase head	□	□	□	○	Colour and beating	Clean tape contact area with the specified cleaning liquid.
A/C head	□	□	□	○	Small sound or sound distortion	
Upper and lower drum ass'y	□	○□	○□	○□	Poor S/N ratio, no colour Poor flatness of the envelope with alignment tape	
Capstan D.D. motor	□	□	□	□	No tape running, uneven colour	
Pinch roller	□	□	□	□	No tape running, tape slack	Clean rubber and rubber contact area with the specified cleaning liquid.
Reel belt		□		○	No tape running, tape slack, no fast forward/ rewind motion	
Tension band ass'y				○	Screen swaying	
Loading motor				○	Cassette not loaded or unloaded	
Idler ass'y				○	No tape running, tape slack	
Limiter pulley		□△		□○		
Supply/take-up main brake levers				○	Tape slack	

NOTE ○ : Part replacement. □ : Cleaning △ : Apply grease
<Specified> Cleaning liquid Industrial ethyl alcohol

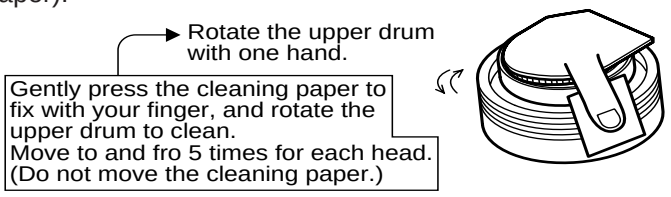
* This mechanism does not need electric adjustment with variable resistor. Check parts. If any deviation is found, clean or replace parts.

Video head cleaning procedure

1. Apply one drop of cleaning liquid to the cleaning paper with the baby oiler.
2. Gently press the cleaning paper against the video head to fix your finger, and move the upper drum so that each head is passed to and fro 5 times (do not move the cleaning paper).
3. Wipe with the dry cleaning paper.

Notes :

- Use the commercially available ethanol of Class 1 as cleaning liquid.
- Since the video head may be damaged, do not move up and down the cleaning paper.
- Whenever the video head is cleaned, replace the cleaning paper.
- Do not apply this procedure for the parts other than the video head.


Rotate the upper drum with one hand.
Gently press the cleaning paper to fix with your finger, and rotate the upper drum to clean.
Move to and fro 5 times for each head.
(Do not move the cleaning paper.)

Parts Code	Description	Code
ZPAPRA56-001E	Cleaning Paper	AW
ZOiLR-02-24TE	Babe Oiler (Spoit)	AH

4-3 REMOVING AND INSTALLING THE CASSETTE HOUSING

• Removal

1. In the cassette removing mode, remove the cassette.
2. Unplug the power cord.
3. Remove in the following numerical order.
   a) Remove two screws ①.
   b) Pull and circle the drive lever and pull up the cassette housing control.

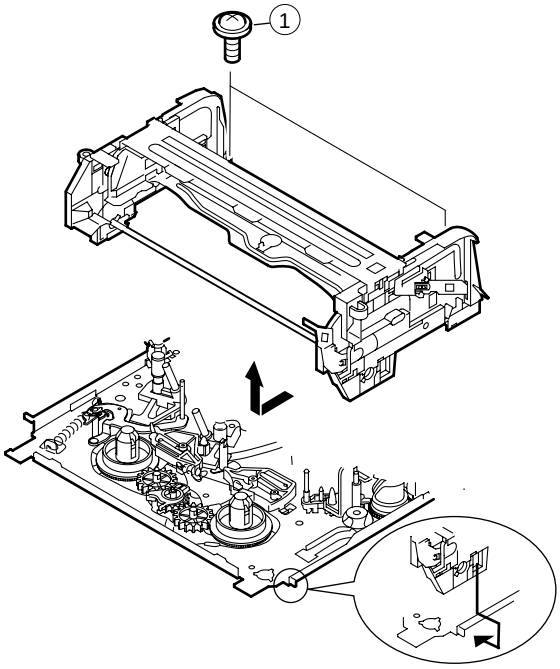


Figure 4-1.

• Reassembly

1. Before installing the cassette housing control, short-circuit between TP803 and TP802 provided at main PWB, press the eject button. The master cam turns and stop in eject position. Fit the drive lever to master cam through main chassis, push down and slide the drive lever towards to master cam.
   *Eject position: Pinch Drive Cam positioning hole parallel to center of Synchro Gear (Synchro gear marking line). Synchro Gear positioning mark parallel to center of master cam.

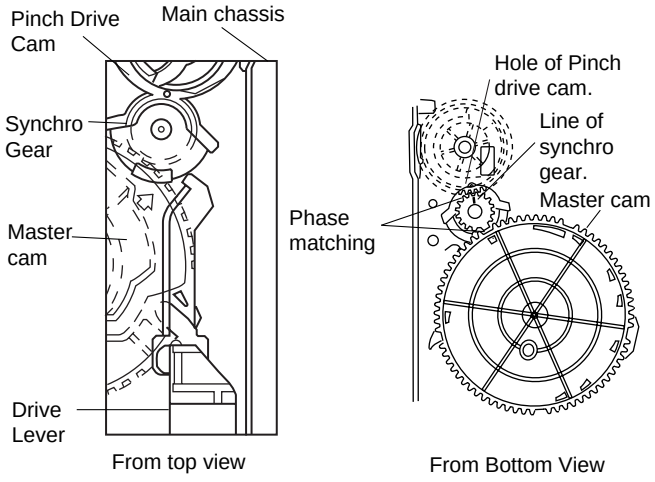


Figure 4-2.

2. Install in the reverse order of removal.

Notes

1. In the case when you use the magnet screw driver, never approach the magnet driver to the A/C head, FE head, and drum.
2. When installing or removing, take care so that the cassette housing control and tool do not contact the guide pin or drum.
3. After installing the cassette housing control once perform cassette loading operation.

4-4 TO RUN A TAPE WITHOUT THE CASSETTE HOUSING CONTROL ASSEMBLY

1. Remove the full-surface panel.
2. Short-circuit between TP803 and TP802.
3. Plug in the power cord.
4. Turn off the power switch.
   (The pole bases move into U.L.position.)
5. Open the lid of a cassette tape by hand.
6. Hold the lid with two pieces of vinyl tape.
7. Set the cassette tape in the mechanism chassis.
8. Stabilize the cassette tape with a weight (500g) to prevent floating.

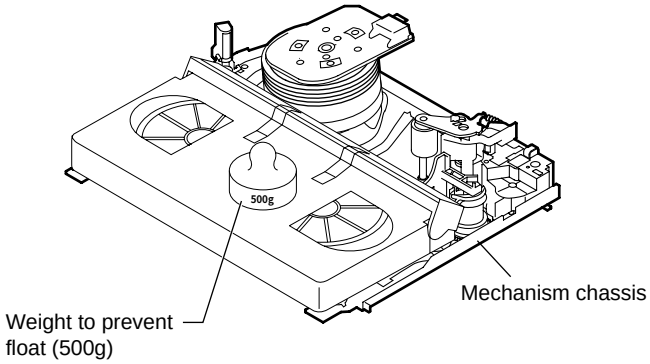


Figure 4-3.

9. Turn on the power switch.
10. Perform running test.

Note:
The weight should not be more than 500g.

To take out the cassette tape.

1. Turn off the power switch.
2. Take out the cassette tape.

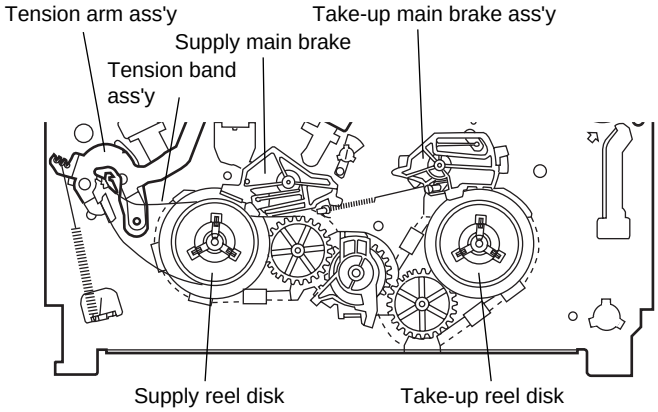
4-5 REEL DISK REPLACEMENT AND HEIGHT CHECK

- **Removal**

1. Remove the cassette housing control assembly.
2. Remove the Supply/Take-up main brake ass'y.
3. Remove tension band from the tension arm ass'y.
4. Remove the reel disk.

Note:

Take care so that the tension band ass'y and main brake ass'y are not deformed.



- **Reassembly (Supply reel disk)**

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Match the phases of reel disk and reel relay gear, and set the new reel disk.
3. After checking the reel disk height, wind the tension band ass'y around the reel disk, and hook to tension arm ass'y.
4. Assemble the Supply main brake ass'y.

Notes:

1. When installing the reel disk, take due care so that the tension band ass'y is not deformed and grease does no adhere.
2. Do not damage the Supply main brake ass'y. Be careful so that grease does not adhere to the brake surface.

- **Reassembly (Take-up reel disk)**

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Align the phase of the reel disk to that of the reel relay gear and to install a new take-up reel disk onto the shaft.
3. Check the reel disk height and reassemble the take-up main brake ass'y.

Note:

1. Take care so that the Take-up main brake ass'y is not damaged. Take care so that grease does not adhere the brake surface.
2. After reassembly, check the video search rewind back tension (see **4-10**), and check the brake torque (see **4-14**).

- **Height checking and adjustment**

Note:

1. Set the master plane with due care so that it does not contact the drum.
2. When putting the master plane, shift the reverse guide a little in the loading direction. Care must be taken since excessive shift results in damage.

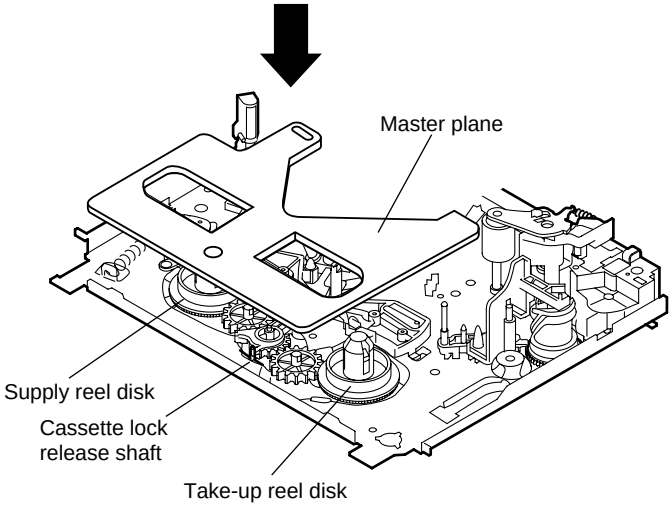


Figure 4-4.

Note:

- Check that the reel disk is lower than part A but higher than part B. If the height is not correct, readjust the reel disk height by changing the poly-slider washer under the reel disk.

Note:
Whenever replacing the reel disk, perform the height checking and adjustment.

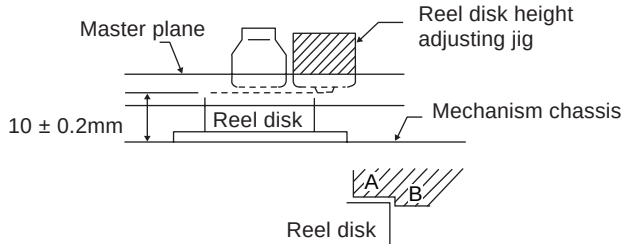


Figure 4-5.

4-6 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN FAST FORWARD MODE

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.
2. Press the FF button.
3. To calculate the remaining capacity of the play back mode, slowly rotate the supply reel disk, and then shift it into the forward mode.

- **Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CW direction.
2. Make sure that the indication of torque gauge is not less than 30mN·m (306gf·cm).

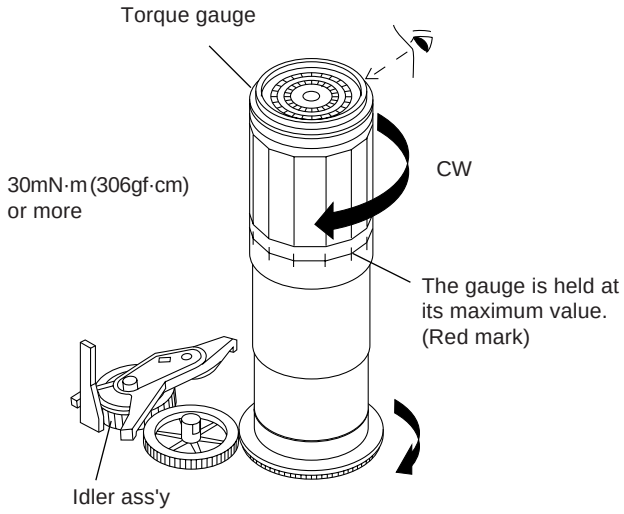


Figure 4-6.

- **Adjustment**

1. If the FF winding-up torque is less than the specified value, clean the capstan D.D. pulley, reel belt, and limiter pulley with cleaning liquid, and check again.
2. If the torque is less than the set value, replace the reel belt.

Notes:

1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

4-7 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN REWIND MODE

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Press the rewind button.
3. To calculate the remaining capacity, slowly rotate the take-up reel disk, and then shift it into the rewind mode.

- **Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CCW direction.
2. Make sure that the indication of torque gauge is not less than 30mN·m (306gf·cm).

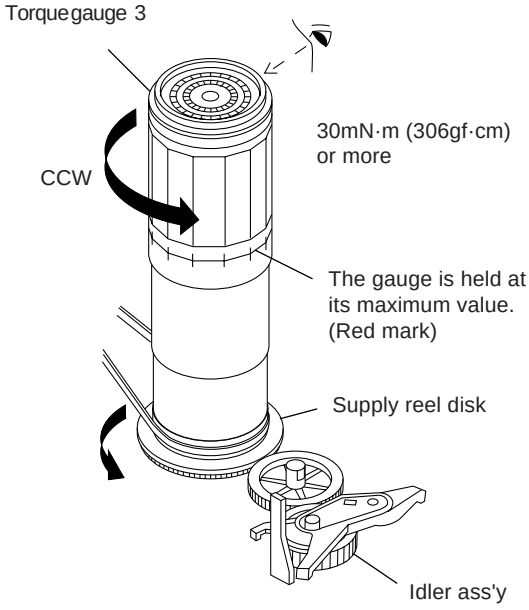


Figure 4-7.

- **Adjustment**

1. If the rewind winding-up torque is less than the specified value, clean the capstan D.D. pulley, reel belt, and limiter pulley with cleaning liquid, rewind again, and check the winding-up torque.
2. If the winding-up torque is still out of range, replace the drive belt.

Notes:
1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

4-8 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN RECORD/PLAYBACK MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**
- **Turn off the power switch.**
- **Open the cassette torque meter lid, and fix it with tape.**
- **Load the cassette torque meter into the unit.**
- **Put the weight (500g) on the cassette torque meter.**
- **Turn on the power switch.**
- **Press the picture record button, and set LP picture record mode (x2).**

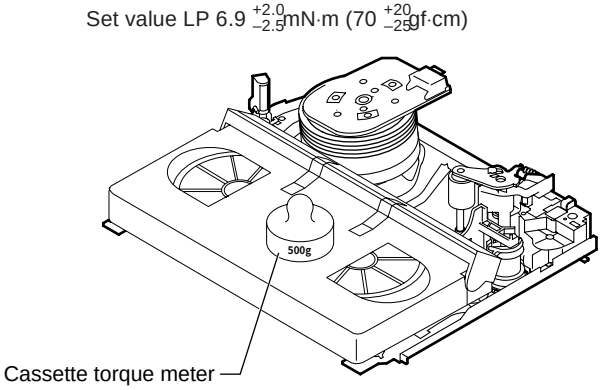


Figure 4-8.

- **Checking**

1. Make sure that value is within the setting 6.9 $^{+2.0}_{-2.5}$mN·m (70$^{+20}_{-25}$gf·cm).
2. The winding-up torque fluctuates due to variation of rotation torque of limiter pulley ass'y. Read the center value of fluctuation as setting.
3. Set the LP record mode (x2) and make sure that the winding-up torque is within setting.

- **Adjustment**

If the playback winding-up torque is not within the setting, replace the limiter pulley assembly.

Note:
When the torque cassette is set, put a weight (500g) to prevent rise.
When the cassette torque meter is taken out.
Turn off the power switch.

4-9 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN VIDEO SEARCH REWIND MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Setting**

Press the playback button and rewind button to set the video search rewinding mode.

- **Checking**

Place the torque gauge on the supply reel disk, and turn it counterclockwise very slowly (one rotation every 1 to 2 seconds) and check that the torque is within the set value 14.1 ± 3.5mN·m. (144 ± 35gf·cm)

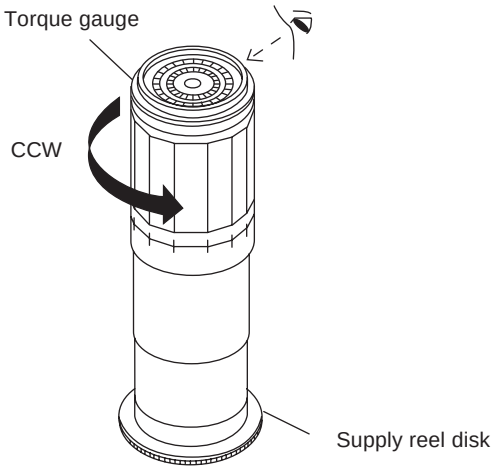


Figure 4-9.

Note:
Surely put the torque gauge on the reel disk to measure. If the torque gauge is raised, accurate measurement is impossible.

- **Adjustment**

If the rewinding playback winding-up torque is not within the setting, replace the limiter pulley assembly.

Note:
The winding-up torque fluctuates due to variation of rotation torque of supply reel disk. Read the center value of fluctuation as setting.

4-10 CHECKING THE VIDEO SEARCH REWIND BACK TENSION

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Checking**

1. After pressing the play button, press the rewind button, and set the video search rewind mode.
2. Place the torque gauge on the take-up reel disk, and turn it counterclockwise very slowly (one rotation every 2 to 3 seconds) and check that the torque is within the set value 3.7 ± 1.5mN·m (38 ± 15gf·cm).

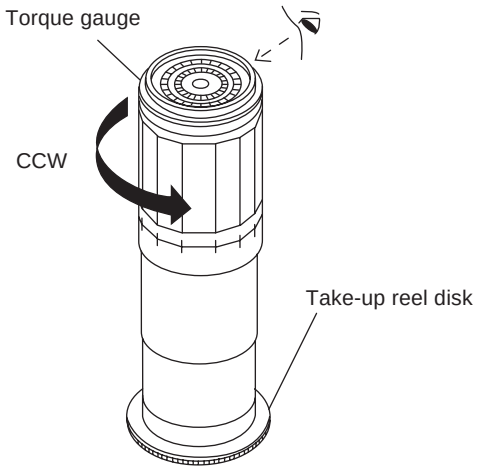


Figure 4-10.

Notes:

Set the torque gauge securely on the take-up reel disk. If it is not secure, the measurement will be incorrect.

4-11 CHECKING THE PINCH ROLLER PRESSURE

∗ Checking can be perform with or without cassette housing control.

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Checking**

Press the play button to set the playback mode.

1. Detach the pinch roller from the capstan shaft. Do not separate excessively. Or the pinch lever and pinch double action lever may disengage.
2. Engage the tension gauge adapter with the pinch roller shaft, and pull in the arrow direction.
3. Gradually return the pinch roller, and measure the pulling force when the pinch roller contacts the capstan shaft.
4. Make sure that the measured value is within setting change to 9.8 ± 2N (1.0 ± 0.2kgf).

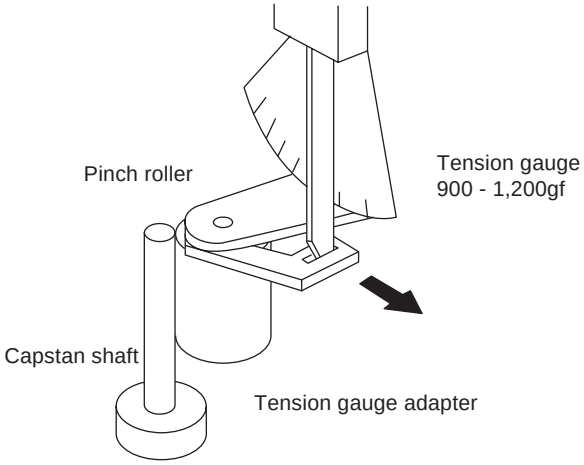


Figure 4-11.

4-12 CHECKING AND ADJUSTMENT OF TENSION POLE POSITION

∗ Checking can be perform with or without cassette housing control.

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Setting (without cassette housing control)**

1. Turn off the power switch.
2. Open the cassette tape (E-180), and fix with tape.
3. Set the cassette tape in loading state.
4. Put the weight (500g) on the cassette tape.
5. Turn on the power switch.
6. Make the adjustment with the beginning of a E-180 tape.

- **Setting (with cassette housing control)**

1. Insert cassette tape (E-180).
2. Make the adjustment with the beginning of a E-180 tape.

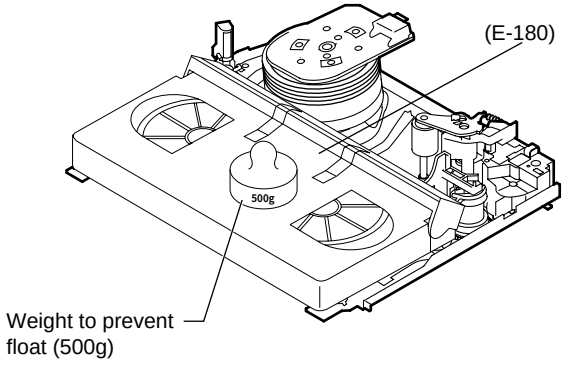
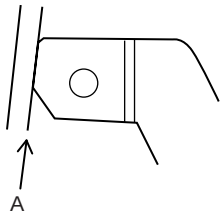


Figure 4-12.

- **Checking**

1. Set a cassette tape, push the REC button to place the unit in the SP record mode. Now check the tension pole position.
2. Visually check to see if the position of the tension pole is within the $0^{+0.5}_{-0.2}$ mm from the left side line.

Standard A = $0^{+0.5}_{-0.2}$ mm



Make the adjustment with the beginning of a E-180 tape.

Figure 4-13.

At left side from the reference line. (A).

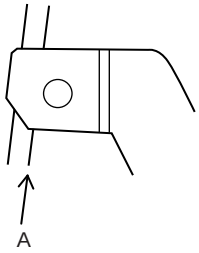


Figure 4-14.

Insert the tension pole adjustment driver to main chassis hole, and rotate clockwise.

At right side from the reference line. (A).

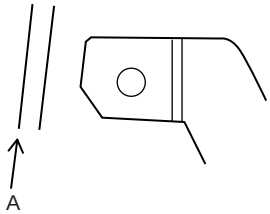


Figure 4-15.

Insert the tension pole adjustment driver to main chassis hole, and rotate counterclockwise.

Tension pole adjustment driver adjusting direction

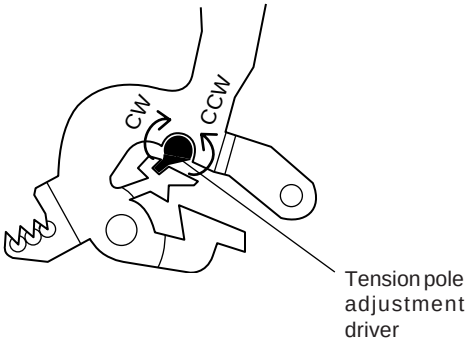


Figure 4-16.

4-13 CHECKING AND ADJUSTMENT OF RECORD/PLAYBACK BACK TENSION

∗ Checking can be perform with or without cassette housing control.

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Setting (without cassette housing control)**

1. Turn off the power switch.
2. Open the cassette torque meter and fix with tape.
3. Set the cassette torque meter in loading state.
4. Put the weight (500g) on the cassette torque meter.
5. Turn on the power switch.

- **Setting (with cassette housing control)**

1. Insert cassette torque meter.

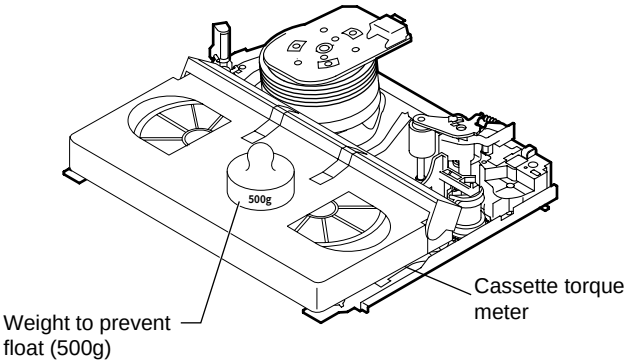


Figure 4-17.

- **Checking**

1. Push the REC button to place the unit in the SP record mode.
2. At this time ascertain that the back tension is within the setting 3.9 to 5.5mN·m (40 to 56gf·cm) by seeing the indication of torque cassette meter.

- **Adjustment**

1. If the indication of torque cassette meter is lower than the setting, shift the tension spring engagement to the part A.
2. If the indication of torque cassette meter is higher than the setting, shift the tension spring engagement to the part B.

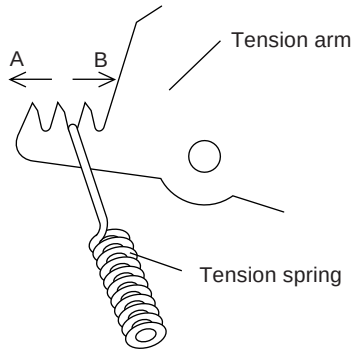
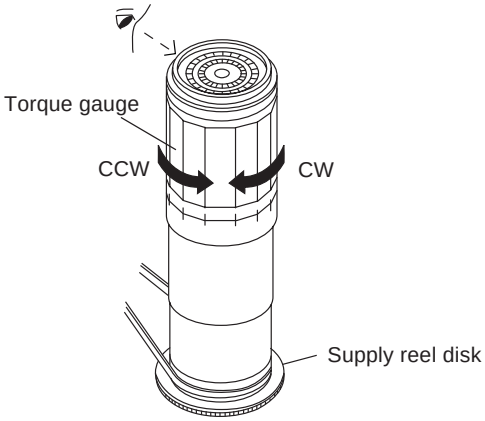


Figure 4-18.

4-14 CHECKING THE BRAKE TORQUE

- **Checking the brake torque at the supply side**



CCW: 4.41 $\pm^{+2.0}_{-1.5}$ mN·m (45 $\pm^{+20}_{-15}$ gf·cm)
CW: 4.12 $\pm^{+1.5}_{-1.2}$ mN·m (42 $\pm^{+15}_{-12}$ gf·cm)

Figure 4-19.

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

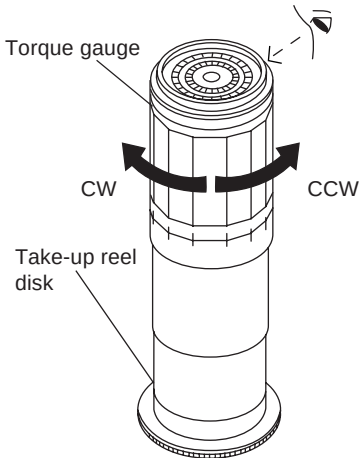
- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Switch from the FF mode to the STOP mode.
3. Disconnect the power cord.
4. Please check Idler gear not contact with reel relay gear (SU side)

- **Checking**

Turn the torque gauge at a rate of about one turn/2 sec in the CW direction/CCW direction with respect to the supply reel disk so that the reel disk and torque gauge pointer rotate at equal speed, and make sure that the value is within the setting (CW direction: 4.12 $\pm^{+1.5}_{-1.2}$ mN·m (42 $^{+15}_{-12}$ gf·cm); CCW direction: 4.41 $^{+2.0}_{1.5}$ mN·m (45 $^{+20}_{-15}$ gf·cm).

- **Checking the brake torque at the take-up side**



CCW: 4.41 $\pm^{+2.0}_{-1.5}$ mN·m (45 $\pm^{+20}_{-15}$ gf·cm)
CW: 4.12 $\pm^{+1.5}_{-1.2}$ mN·m (42 $\pm^{+15}_{-12}$ gf·cm)

Figure 4-20.

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Setting**

1. Switch from the FF mode to the STOP mode.
2. Disconnect the power cord.
3. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.
4. Please check Idler gear not contact with reel relay gear (TU side)

- **Checking**

1. Turn the torque gauge at a rate of about one turn/2 sec in the CCW direction/CW direction so that the reel disk and torque gauge pointer rotates at equal speed and make sure that the value is within the setting (CCW direction: 4.41 $^{+2.0}_{-1.5}$ mN·m (45 $^{+20}_{-15}$ gf·cm), CW direction: 4.12 $^{+1.5}_{-1.2}$ mN·m (42 $^{+15}_{-12}$ gf·cm).

2. Adjustment of the brake torque at the supply side and the take-up side

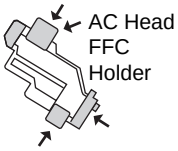
- Unless the supply side brake torque or take-up side brake torque is within the setting, clean the felt surface of reel disk (supply, take-up) brake lever, check again the brake torque.
- If value cannot be set within the setting yet, replace the main brake ass'y or main brake spring.

4-15 REPLACEMENT OF A/C (AUDIO/CONTROL) HEAD

1. In eject position unplug the power cord.

- **Removal**

1. Take out FFC holder from main chassis. (Push 3 hooking point and pull-up the holder).
2. Remove the screws ①②③, Tilt screw.
3. Unsolder the PWB fitted to the A/C head.



Notes:

1. When replacing, never touch the head. If you touched, clean with the cleaning liquid.
2. When removing the screw ③, take care so that the spring may out.

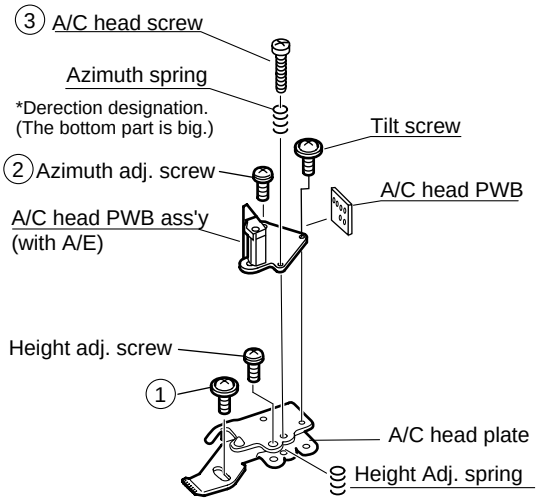


Figure 4-21.

- **Replacement**

1. Solder the removed PWB to the new head assembly.
2. Adjust the height from the A/C head arm (lower surface) to the A/C head plate to 10.8mm with slide calipers. (3 places of azimuth screw section, tilt screw section and A/C head front section) (See the figure below.)

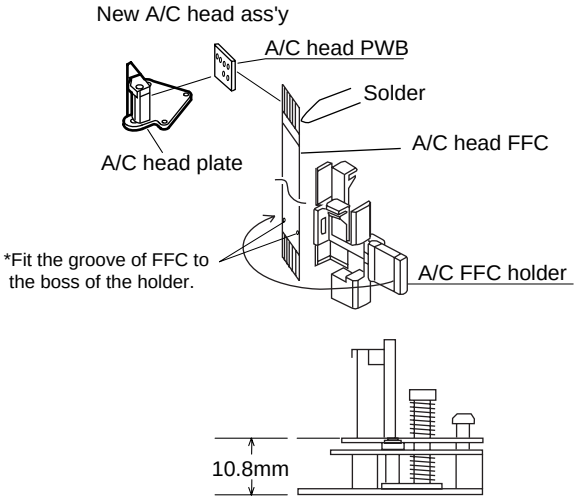


Figure 4-22.

3. Align the left end of gear of A/C head arm with the punched mark of chassis, tentatively tighten the screws ① so as to ensure smooth motion of A/C head arm. Tightening torque must be 0.45 ± 0.05N·m (4.5 ± 0.5kgf·cm).

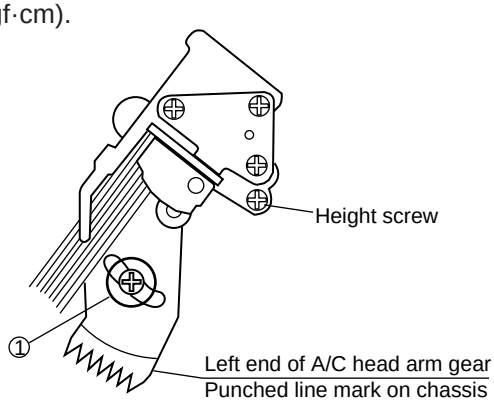


Figure 4-23.

Note:

1. If the screw ① is tighten tentatively too loose, the azimuth and height of A/C head may change when they are finally tightened. Therefore care must be taken.
2. After completion of A/C head be sure to adjust tape running. (Execute the running adjustment by the method described in **4-17**.)

4-16 A/C HEAD HEIGHT ROUGH ADJUSTMENT

- **Setting**

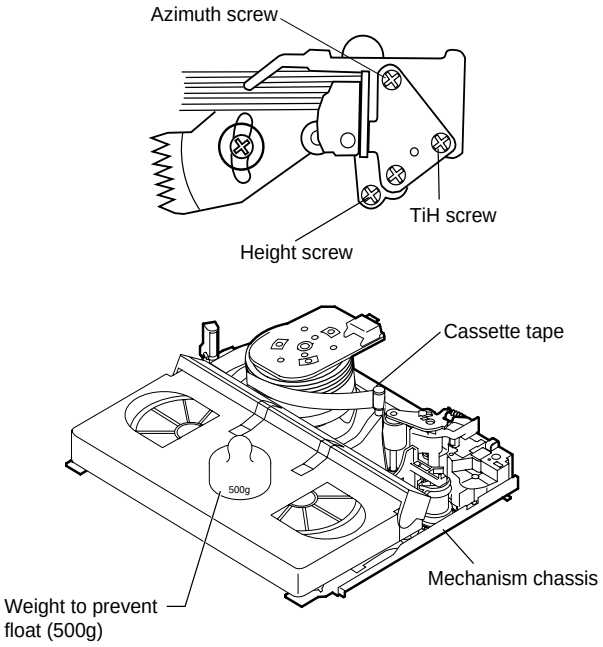


Figure 4-24.

1. Set the cassette tape in the unit.
2. Press the PLAY button to put the unit in the playback mode.
3. Roughly adjust the height of the A/C head by turning the height screw until the tape is in the position shown below.

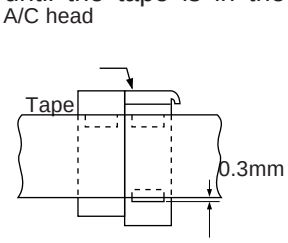


Figure 4-25.

- **Adjustment**

Adjust the height screw visually so that the control head is visible 0.3mm below the bottom of the tape.

4-17 ADJUSTMENT OF TAPE DRIVE TRAIN

1. Tape run rough adjustment
   ① Check and adjust the position of the tension pole. (See **4-12**.)
   ② Check and adjust the video search rewind back tension. (See **4-10**.)
   ③ Connect the oscilloscope to the test point for PB ATR signal output (TP201). Set the synchronism of the oscilloscope to EXT. The PB ATR signal is to be triggered by the head switching pulse (TP202).
   ④ Set the alignment tape (VROCPSV) to play.

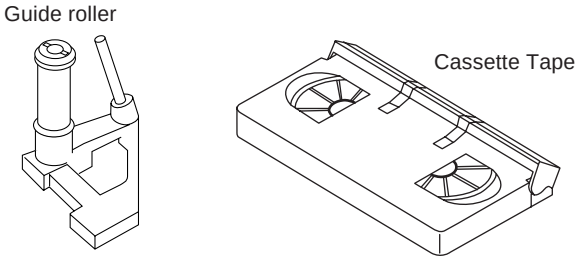


Figure 4-26.

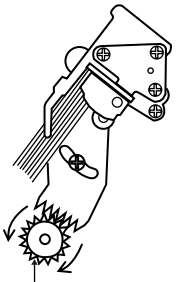
   ⑤ Press the tracking button (+), (–) and change the ATR signal waveform from max to min and from min to max. At this time make sure that the ATR signal waveform changes nearly parallel.
   ⑥ Unless the ATR signal waveform changes nearly parallel, adjust the height of supply side and take-up side guide roller so that the envelope waveform changes nearly parallel. (For ATR signal adjustment procedure refer to Figure 4-30.)
   ⑦ Turn the tilt screw to remove the tape crease at the fixing guide flange.
   Playback the tape and check for tape crease at the fixing guide flange.
   (1) If there is no tape crease
   Turn the tilt screw clockwise so that tape crease appears once at the flange, and then return the tilt screw so that the crease disappears.
   (2) If there is tape crease
   Turn counterclockwise the tilt screw so that the tape crease disappears.
   (Reference) If the tilt screw is turned clockwise crease appears at the lower flange.

Notes:

1. Previously set the tracking control in the center position, and adjust the ATR signal waveform to maximum with X value adjustment nut. Thereby the tape run rough adjustment is facilitated.
2. Especially the outlet side ATR signal waveform must have higher flatness.

Figure 4-27.

2. Adjustment of A/C head height and azimuth
   ① Perform the initial setting of A/C head position by the method stated in "**4-15** Replacement 3".
   ② Connect the oscilloscope to the audio output terminal.
   ③ Using the alignment tape in which 1 kHz linear audio signal has been recorded, adjust the height screw so as to get max audio output.
   ④ Using the alignment tape in which 7 kHz linear audio signal has been recorded, adjust the azimuth screw so as to get max audio output.
   ⑤ The adjustment of ③ and ④ twice or three times repeat, and finally adjust ④.

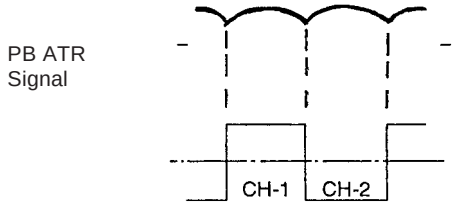


For X value adjustment
Adjust the X value, turning the gear-type screwdriver.

Figure 4-28.

3. Tape run adjustment
   ① Connect the oscilloscope to PB ATR signal output test point, set oscilloscope sync to EXT, trigger-input the PB CHROMA signal (head switching pulse).
   ② Rough adjustment of X value
   Tentatively fix A/C head arm screws ① by the method described in **4-15** "Replacement 3".
   Playback the alignment tape (VROCPSV) and shortcircuit between TP801 and TP802. As a result the auto-tracking is automatically cancelled, so that the X value adjustment mode is set.
   Move the A/C head with the X value adjustment gear driver (JiGDRiVER-6) by the method shown in Figure 4-33, and adjust the A/C head so as to get the maximum ATR signal waveform. (Note: When the A/C head is adjusted, adjust so that the maximum ATR signal waveform is obtained nearest the position of initial setting made in **4-15**.)

③ Next, press the tracking button (+), (–) and change the ATR signal waveform from max to min and from min to max. At this time adjust the height of supply and take-up side guide roller with the adjustment driver (JiGDRiVERH-4) so that the ATR signal waveform changes nearly parallel.
④ If the tape is lifted or sunk from the helical lead surface, the PB ATR signal waveform appears as shown in Figure 4-30.
⑤ Press the tracking button (+), (–) and make sure that the ATR signal waveform changes nearly parallel.
⑥ Finally, check tape crease near the reverse guide. If tape crease is found, adjust tilt screw 45˚ counter clockwise. Small tape crcase will appear at retain guide after this adjustment finished.



Head switching pulse

Figure 4-29.

4. A/C head X value adjustment
① Fix A/C head arm screws ① by the method described in **4-15** "Replacement 3".
② Playback the alignment tape (VROCPSV), and shortcircuit between TP801 and TP802. As a result the auto-tracking is automatically cancelled, so that the X value adjustment mode is set.

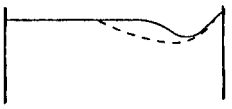
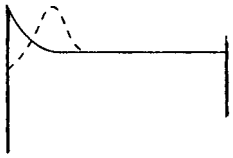
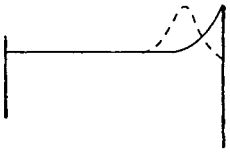
	When the tape is above the helical lead.		When the tape is below the helical lead.	
	Supply side	Take-up side	Supply side	Take-up side
				
				
Adjustment	Supply side guide roller rotated in clockwise direction (lowers guide roller) to flatten ATR signal.	Take-up side guide roller rotated in clockwise direction (lowers guide roller) to flatten ATR signal.	Supply side guide roller rotated in counterclockwise direction (raises guide roller) to make the tape float above the helical lead. The supply side guide roller is then rotated in the clockwise direction to flatten the ATR signal.	Take-up side guide roller rotated in counterclockwise direction (raises guide roller) to make the tape float above the helical lead. The take-up side guide roller is then rotated in the clockwise direction to flatten the ATR signal.

Figure 4-30.

③ Move the A/C head with the X value adjustment gear driver by the method shown in Figure 4-33, and adjust the A/C head so as to get the maximum ATR signal waveform. (Note: At this time adjust so as to get the maximum ATR signal waveform nearest the A/C head position which has been set in case of X value rough adjustment as stated in **4-17**, 3- ②.)
④ Adjust the playback switching point (Refer to the electric adjustment method.)
⑤ Playback the self-picture-recorded tape, and check the flatness of ATR signal waveform and sound.

Notes:
When the A/C head X value adjustment is performed, be sure to perform at first X value rough adjustment (refer to **4-17**, 3-②).

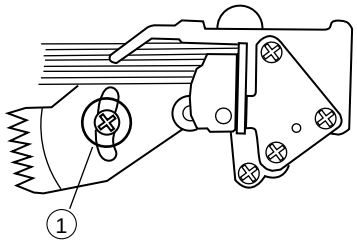


Figure 4-31.

4-18 REPLACEMENT OF THE CAPSTAN D.D. (DIRECT DRIVE) MOTOR

- Remove the mechanism from the set.

- **Removal (Follow the order of indicated numbers.)**

1. Unsolder loading motor wire and drum FFC (except for VC-A50S).
2. Remove the reel belt ①.
3. Remove the three screws ②.

- **Reassembly**

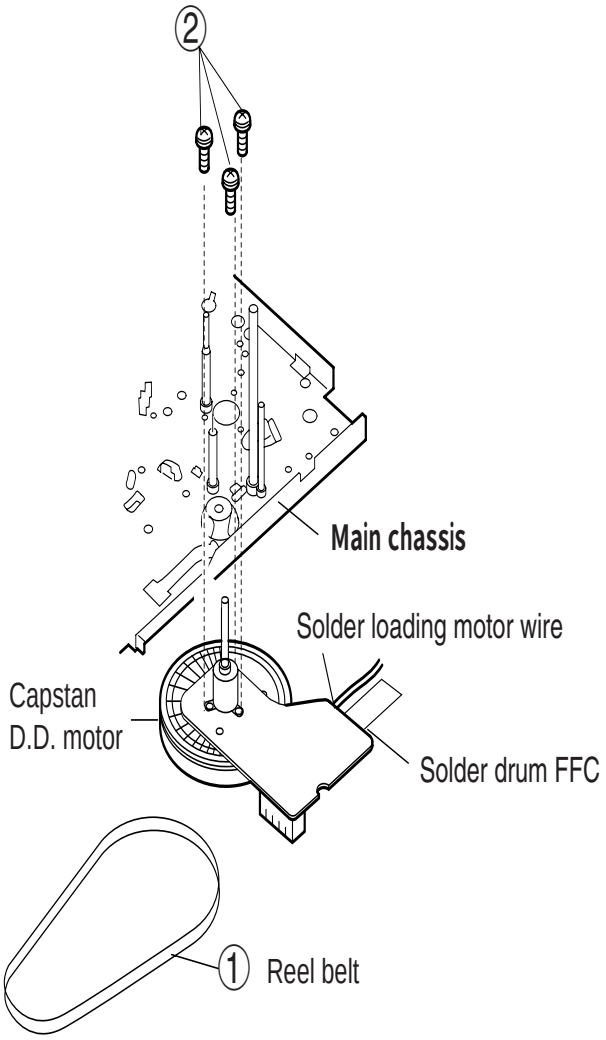


Figure 4-32.

1. Taking care so that the capstan shaft does not contact the mechanism chassis, set its position on the mechanism chassis, and then install with the three screws.
2. Install the reel belt.
3. Solder loading motor wire and insert drum FFC (except for VC-A50S).

Notes:

1. After installing the capstan D.D. motor, be sure to rotate the capstan D.D. motor and check the movement.
2. Set the tape, and check for the tape crease near the reverse guide in the playback mode. Adjust the A/C head and azimuth as stated in **4-17** item 2.

4-19 REPLACEMENT OF DRUM D.D. MOTOR

1. Set the ejection mode.
2. Withdraw the main power plug from the socket.

- **Removal (Perform in numerical order.)**

1. Disconnect the FFC cable ①.
2. Unscrew the D.D. stator assembly fixing screws ②.
3. Take out the D.D. stator assembly ③.
4. Unscrew the D.D. rotor assembly fixing screws ④.
5. Take out the D.D. rotor assembly ⑤.

Notes:

1. In removing the D.D. stator assembly, part of the drum earth spring pops out of the pre-load collar. Be careful not to lose it.
2. Install, so that the D.D. rotor ass'y and upper drum ass'y mounting direction check holes align. (Align the upper drum dent with the rotor hole.)
3. Be careful not to damage the upper drum or the video head.
4. Protect the hole elements from shock due to contact with D.D. stator or D.D. rotor ass'y.
5. After installation adjust the playback switching point for adjustment of servo circuit.

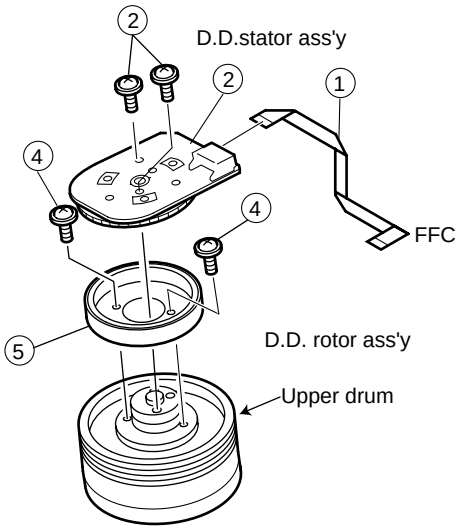


Figure 4-33.

4-20 REPLACING THE UPPER AND LOWER DRUM ASSEMBLY

• Replacement (Perform in the numerical order)
① Remove the motor as stated in **4-19** D.D. motor replacement.
② Remove the drum earth brush ass'y ②.
③ Remove the upper and lower drum assembly from main chassis ①.
④ Remove the drum FFC holder ③.

[Cares when replacing the drum]
1. Be careful so that the drum earth brush is not lost.
2. Do not touch directly the drum surface.
3. Fit gently the screwdriver to the screws.
4. Since the drum assembly is an extremely precise assembly, it must be handled with utmost care.
5. Make sure that the drum surface is free from dust, dirt and foreign substances.
6. After replacing the drum be sure to perform the tape running adjustment.
   After that, perform also the electrical adjustment.
   • Playback switching point adjustment
   • X-position adjustment and check
   • Standard and x-3 slow tracking adjustment
7. After replacing the drum clean the drum.

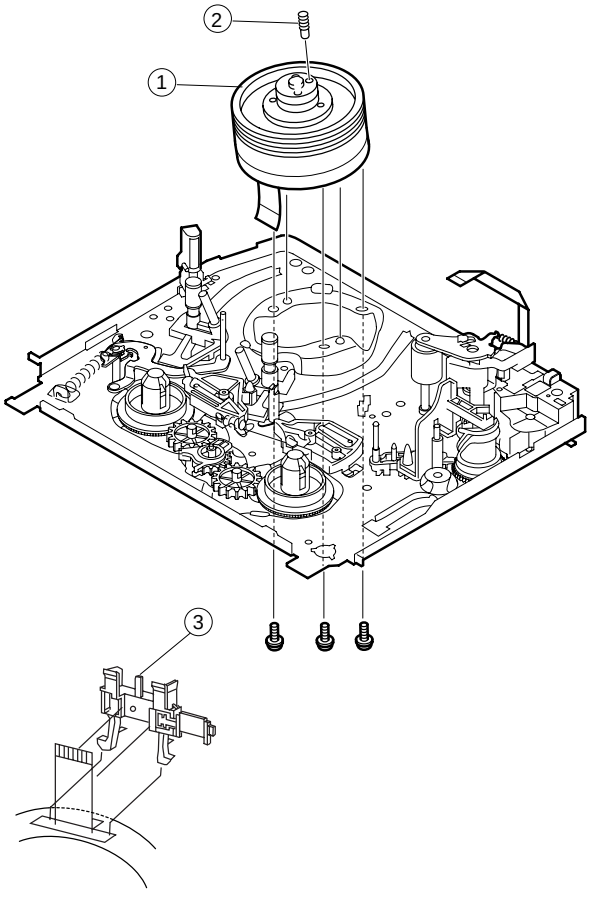


Figure 4-34.

4-21 ASSEMBLING OF PHASE MATCHING MECHANISM COMPONENTS

- **Assemble the phase matching mechanism components in the following order.**

1. Assemble the reverse guide lever and pinch drive cam.
2. Mounting the shifter (on the back of the mechanism chassis).
3. Mounting the master cam (on the back of the mechanism chassis).
4. Assemble synchro gear.
5. Assemble the loading motor parts.

• PINCH DRIVE CAM AND REVERSE GUIDE LEVER ASSEMBLING METHOD.

(Place the following parts in position in numerical order.)
(1)Pinch drive cam ①
(2)Reverse guide spring ②
(3)Reverse guide lever ass'y ③
(4)Open guide ④

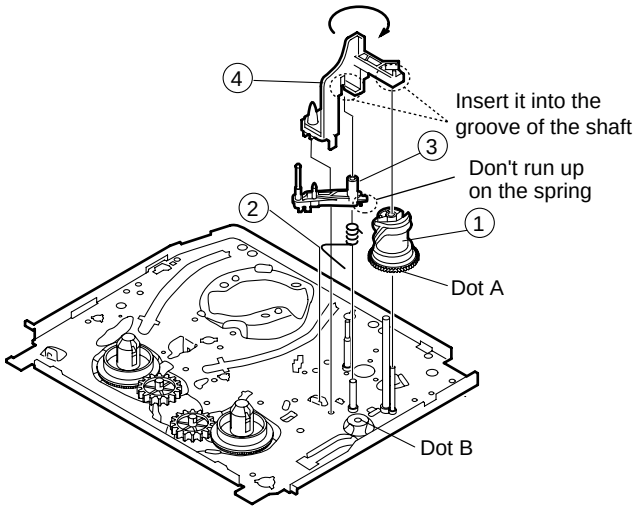
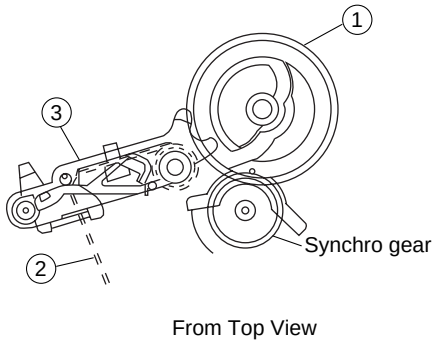
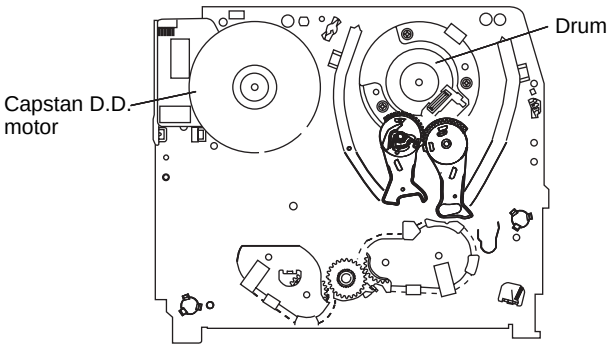


Figure 4-35.



From Top View

4-22 INSTALLING THE SHIFTER



(Bottom side of mechanism chassis)

Figure 4-36.

1. Make sure that the loading arm T and S are at the Phase-Matching point as shown below ⓐ.
2. Fix the shifter position setting part to the roading arm T position setting part as shown in figure ⓑ
3. Make sure tension arm not run on the shifter as shown in figure ⓒ.

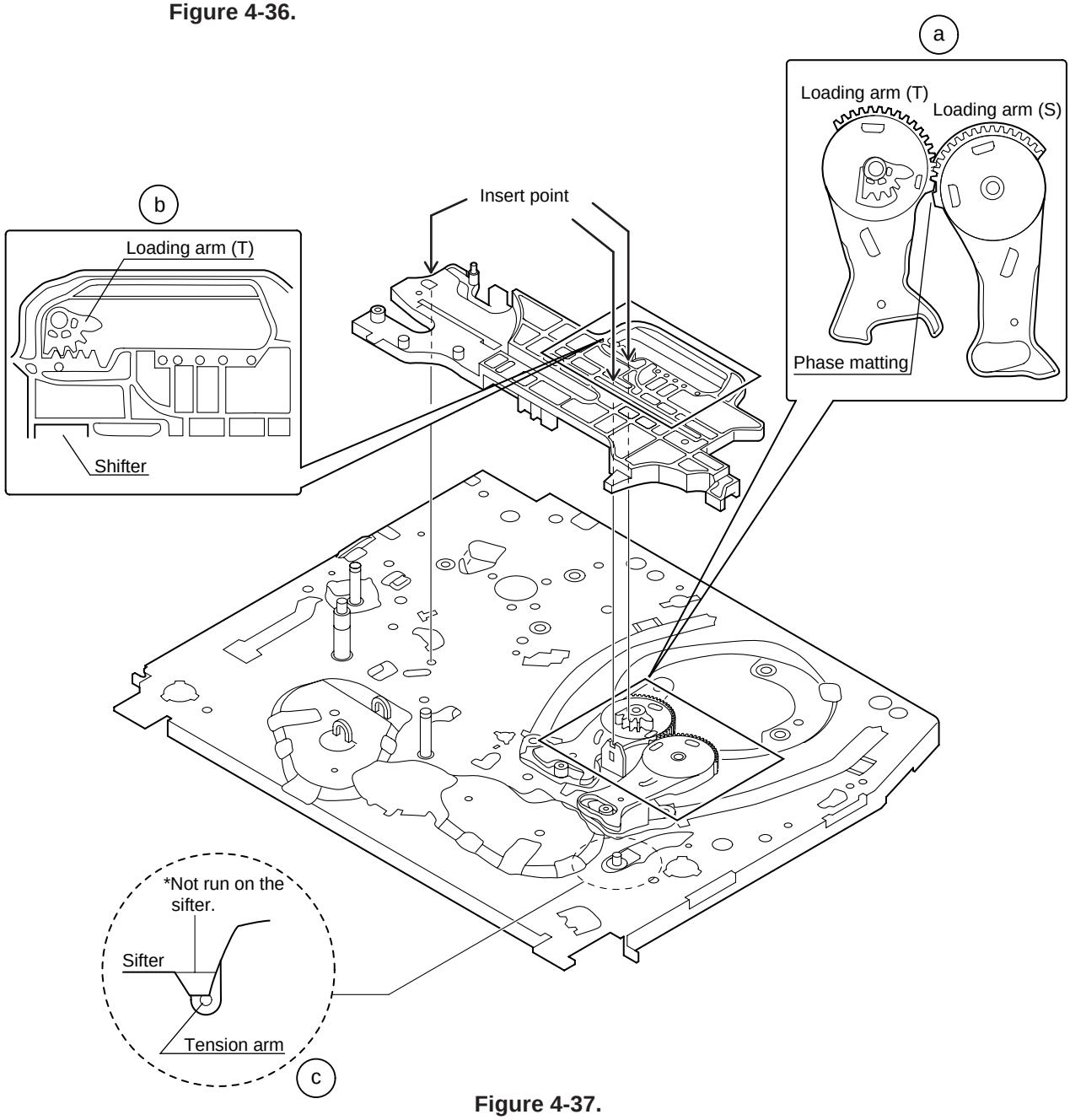


Figure 4-37.

4-23 INSTALLING THE MASTER CAM (AT REAR SIDE OF MECHANISM CHASSIS)

1. Make sure beforehand that the shifter is at initial position. (Right side from bottom view)
2. Place the master cam in the position as shown below.
3. Fix the E ring.

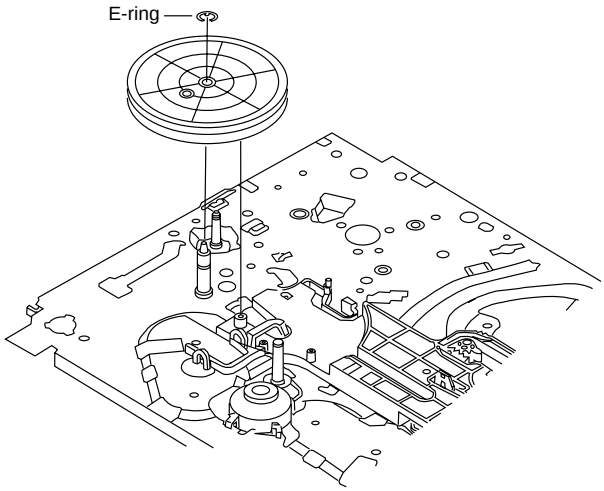


Figure 4-38-1.

4. Adjust the master cam and pinch drive cam, fix the synchro gear in correct position.

Note:
See the figure below for the phase matching between the master cam synchro gear and pinch drive cam.

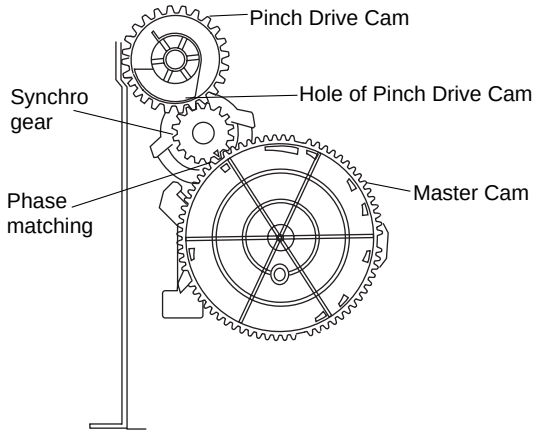


Figure 4-38-2.

4-24 REPLACEMENT OF LOADING MOTOR

- **Removal**

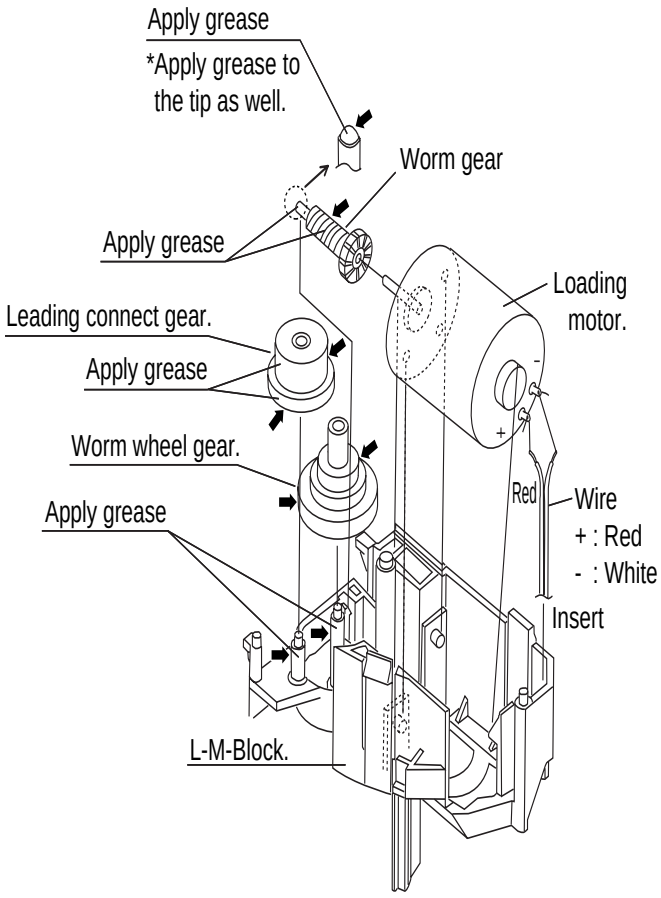


Figure 4-39.

- **Replacement**

Remove the loading motor, and install the replacement loading motor as shown below.

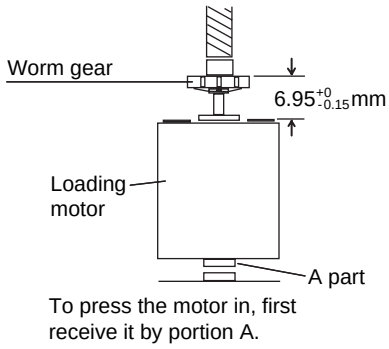
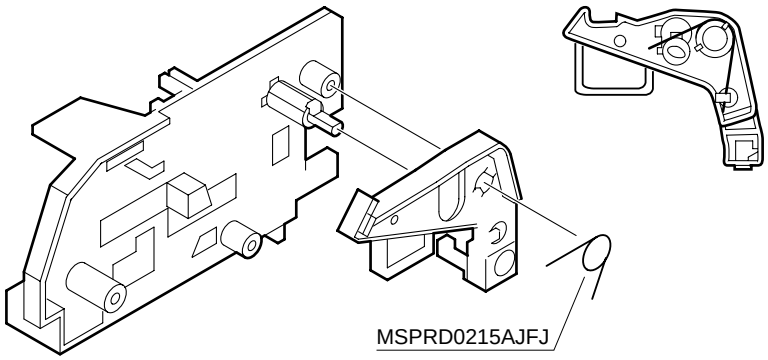


Figure 4-40.

The loading motor pressing-in must be less than 196N (20 kgf).
Adjust the distance between motor and pulley to 6.95 $^{+0}_{-0.15}$ mm.

4-25 ASSEMBLY OF CASSETTE HOUSING

1. Proof lever Proof lever spring and Holder R



*Proof lever spring fixing direction designated.

Figure 4-41.

2. 0pen lever, Sensor Plate and Frame R

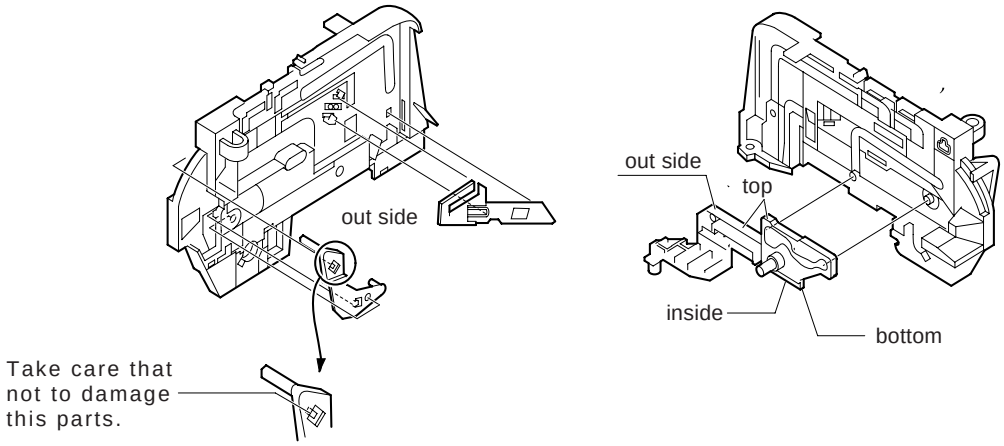


Figure 4-42.

3. Spring to Drive Arm R

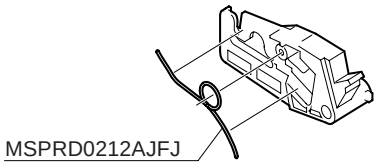


Figure 4-43.

4 Frame R, Frame L, Drive Arm R, Drive Arm L, Upper Plate.

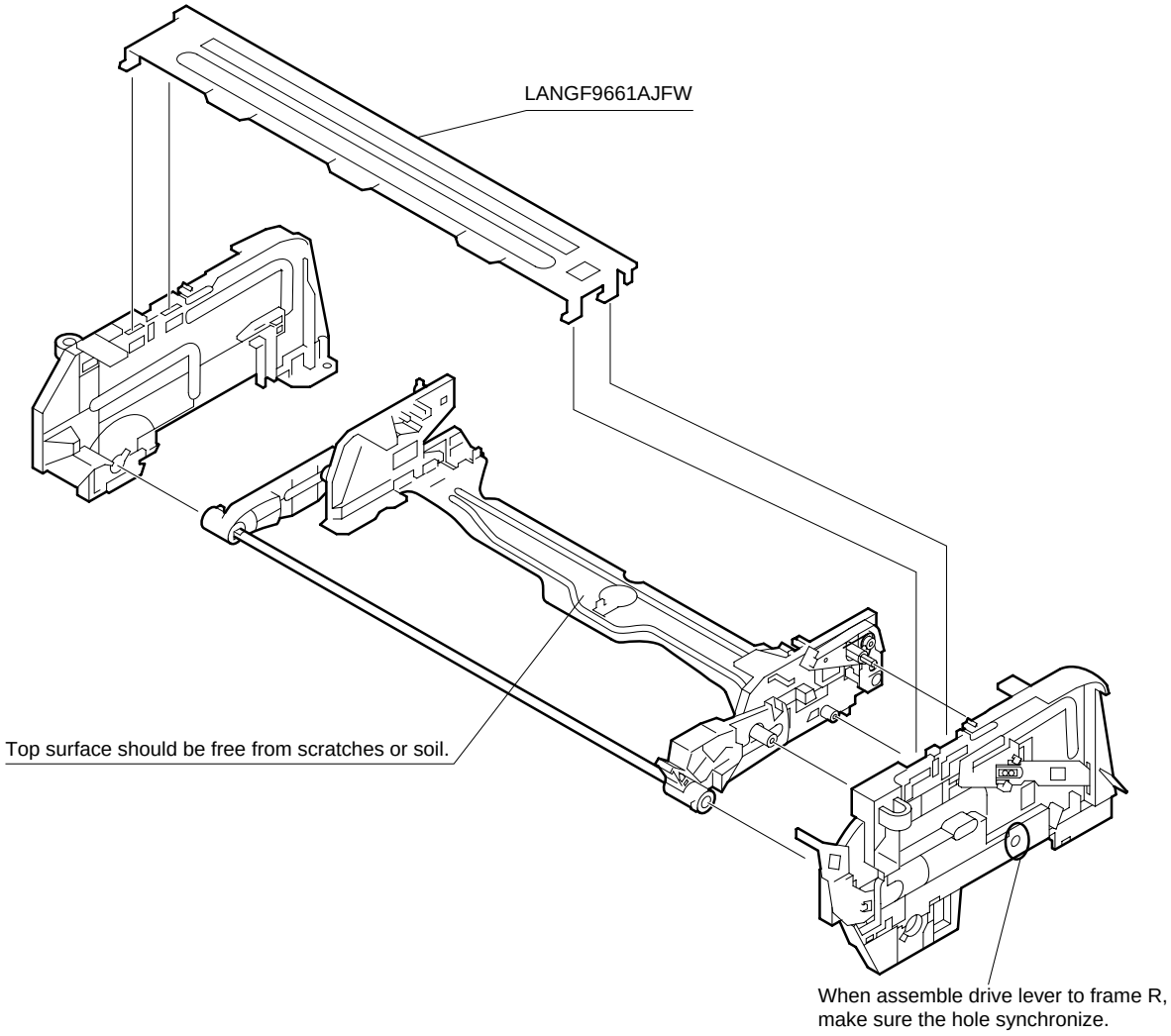

LANGF9661AJFW
Top surface should be free from scratches or soil.
When assemble drive lever to frame R,
make sure the hole synchronize.

Figure 4-44.

5. ELECTRICAL ADJUSTMENT

Notes:

- Before the adjustment:
  Electrical adjustments discussed here are often required after replacement of electronic components and mechanical parts such as video heads.
  Check that the mechanism and all electric components are in good working condition prior to the adjustments, otherwise adjustments can not be completed.

- Instruments required:
  - ◎ Colour TV monitor
  - ◎ Audio signal generator
  - ◎ Blank video cassette tape
  - ◎ Screwdriver for adjustment
  - ◎ Colour bar singnal generator
  - ◎ Dual-trace oscilloscope
  - ◎ AC milli-voltmeter
  - ◎ Alignment tape(VROCPSV)

- **Location of controls and test points**

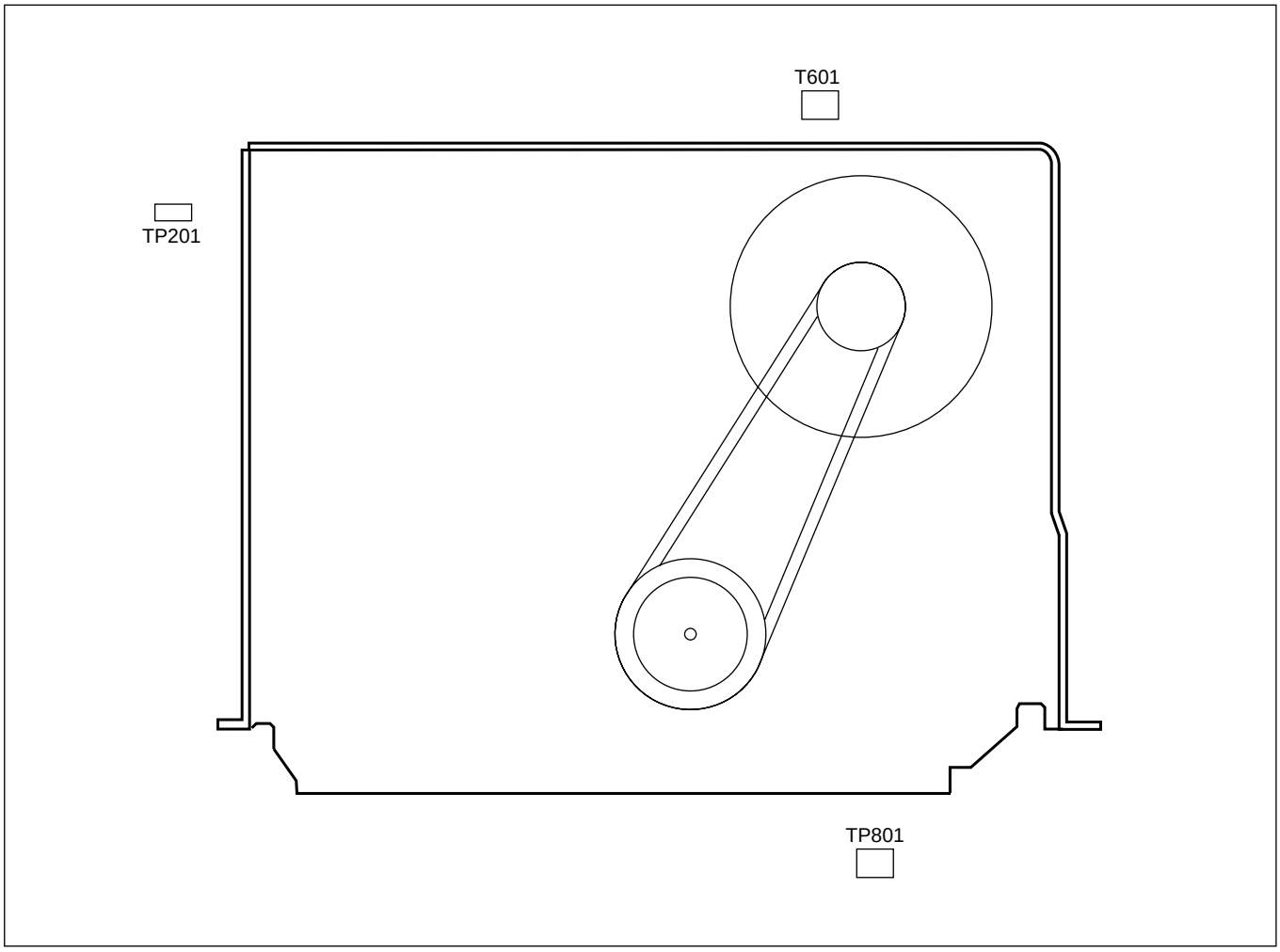


Figure 5-1.

SERVO CIRCUIT ADJUSTMENT

ADJUSTMENT OF HEAD SWITCHING POINT

Measuring instrument	Dual-trace oscilloscope Colour TV monitor
Mode	Playback
Cassette	Alignment tape Head / Tape 2 / CBZF 2LP / BBZG 4 / CBZF 4HiFi / CBZF
Test point	Pin(2) of P201 (H.SW.P.) to CH-1, VIDEO OUT jack to CH-2 (CH-1 trigger slope switch at (+), Internal trigger at CH-1 side.)
Specification	6.5 ± 0.5H (lines)

1. Remove the front panel and play the alignment tape.
2. Get TP801 short circuited or press press "TEST"key(47H) at Universal remote control to call the test mode. (LCD will blinking as tracking goes to center)
3. Press "PLAY" key.
   Auto PG Mode will be ON and playback mark " ▶ " blinking.
4. Press "STOP" key
   " ▶ " blinking stops and auto adjustment finished.
5. Check that V-Sync is 6.5±0.5H and the waveform is as shown in Figure 5-2.

Note:

Formanual PG Adjustment,press FF or REW key at the Test Mode to set the tracking in center.

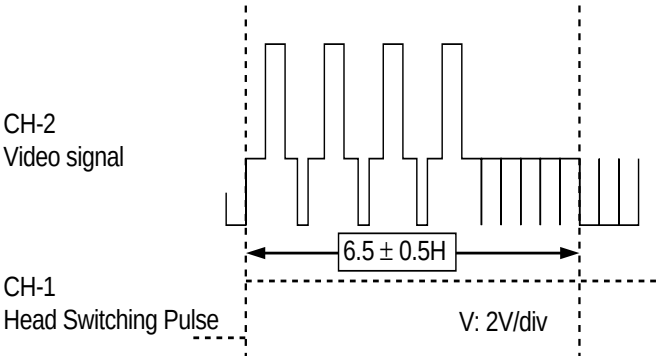


Figure 5-2.

ADJUSTMENT OF PAL SYSTEM FV (False Vertical Sync) OF STILL PICTURE

Measuring instrument	Colour TV monitor
Mode	Playback still
Cassette	Self-recorded tape (SP/LP,EP mode) (See Note below ①)
Control	Tracking control buttons (+) or (-)
Specification	No vertical jitter of picture

1. Play a self-recorded tape.
2. Press the PAUSE/STILL button to freeze the picture.
3. Adjust (+) or (-) TRACKING buttons on the remote control so that the vertical jitter of the picture is minimized.

Note:

① Self-recorded tape is a cassette which program was recorded by the unit being adjusted.

② The FV goes back to the it's initial state when the unit is put into the system controller reset mode due to power failure,etc.
In this case, preset the FV once again.

Y/C CIRCUIT ADJUSTMENT

CHECKING OF VIDEO E-E LEVEL

Measuring instrument	Oscilloscope
Mode	E-E or Record
Input signal	EIA colour bar (1.0Vp-p)
Test point	VIDEO OUT jack
Specification	1.0 ± 0.2 Vp-p

1. Connect a 75 ohm terminating resistor to the VIDEO OUT jack and connect an oscilloscope across this termi-nating resistor.
   (See Note below.)
2. Feed a colour bar signal to the VIDEO IN jack.
3. Make sure that the E-E signal amplitude is 1.0Vp-p as shown in Figure 5-3.

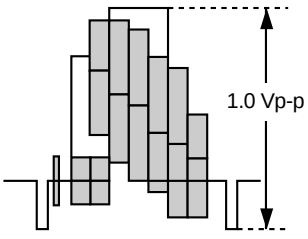


Figure 5-3.

Note:

If the 75 ohm terminating resistor is missing, the signal amplitude will be doubled.

CHECKING OF PLAYBACK LEVEL

Measuring instrument	Oscilloscope
Mode	Record/Playback
Cassette	Self-recorded tape (See Note below ①)
Specification	1.0 ± 0.2 Vp-p

1. Be sure that E-E level has been correctly specificed.
2. Connect a 75 ohm terminating resistor to the VIDEO OUT jack and connect an oscilloscope across this terminating resistor.(See Note below ①)
3. Play a self-recorded tape.
4. Make sure that the output signal amplitude is 1.0Vp-p as shown in Figure 5-4.

Note:

① If the 75 ohm terminating resistor is missing, the signal amplitude will be doubled.

② Self-recorded tape is a tape which program was recorded by the unit being adjusted.

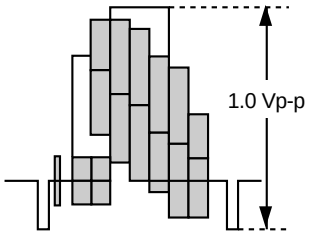


Figure 5-4.

AUDIO CIRCUIT ADJUSTMENT

CHECKING OF E-E LEVEL

Measuring instrument	AC milli-voltmeter
Mode	E-E/Record
Input signal	1kHz, –8.0 dBs (at RCA type jack)
Test point	AUDIO OUT jack
Specification	–8.0 ± 3 dBs

1. Connect an AC milli-voltmeter to the AUDIO OUT jack.
2. Feed the audio signal shown in table to the AUDIO IN jack.
3. Put the unit in E-E or recording mode.
4. Make sure that the output level is value shown in table.

CHECKING OF AUDIO RECORD LEVEL

Measuring instrument	AC milli-voltmeter
Mode	Record/playback
Input signal	1kHz, –8.0 dBs
Test point	AUDIO OUT jack
Specification	–8.0 ± 3 dBs

1. Connect an AC milli-voltmeter to the AUDIO OUT jack.
2. Feed the audio signal shown in table to the AUDIO IN jack.
3. Make the self-recording and playback of the signal.
4. Make sure that the output level is value shown in table.

CHECKING OF ERASE VOLTAGE AND OSCILLATION FREQUENCY

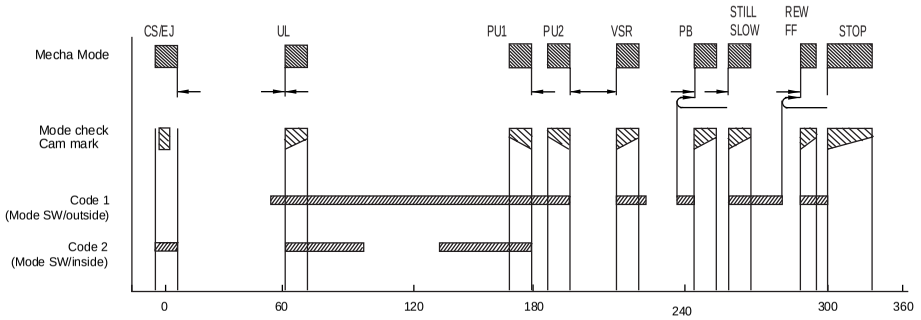
Measuring instrument	Oscilloscope
Mode	Record
Test point	Full erase head
Control	T601
Specification	70 ± 5kHz, 40Vp-p or greater

1. Connect an oscilloscope across the full erase head.
2. Put the unit in recording mode.
3. Make sure the erase voltage across the full erase head is approx. 40Vp-p or more and frequency is 70 ± 5kHz.

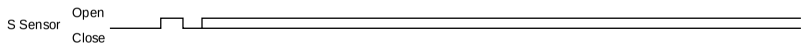
6. MECHANISM OPERATION FLOWCHART AND TROUBLESHOOTING GUIDE

MECHANISM OPERATION FLOWCHART

* This flowchart describes the outline of the mechanism's operation, but does not give its details.

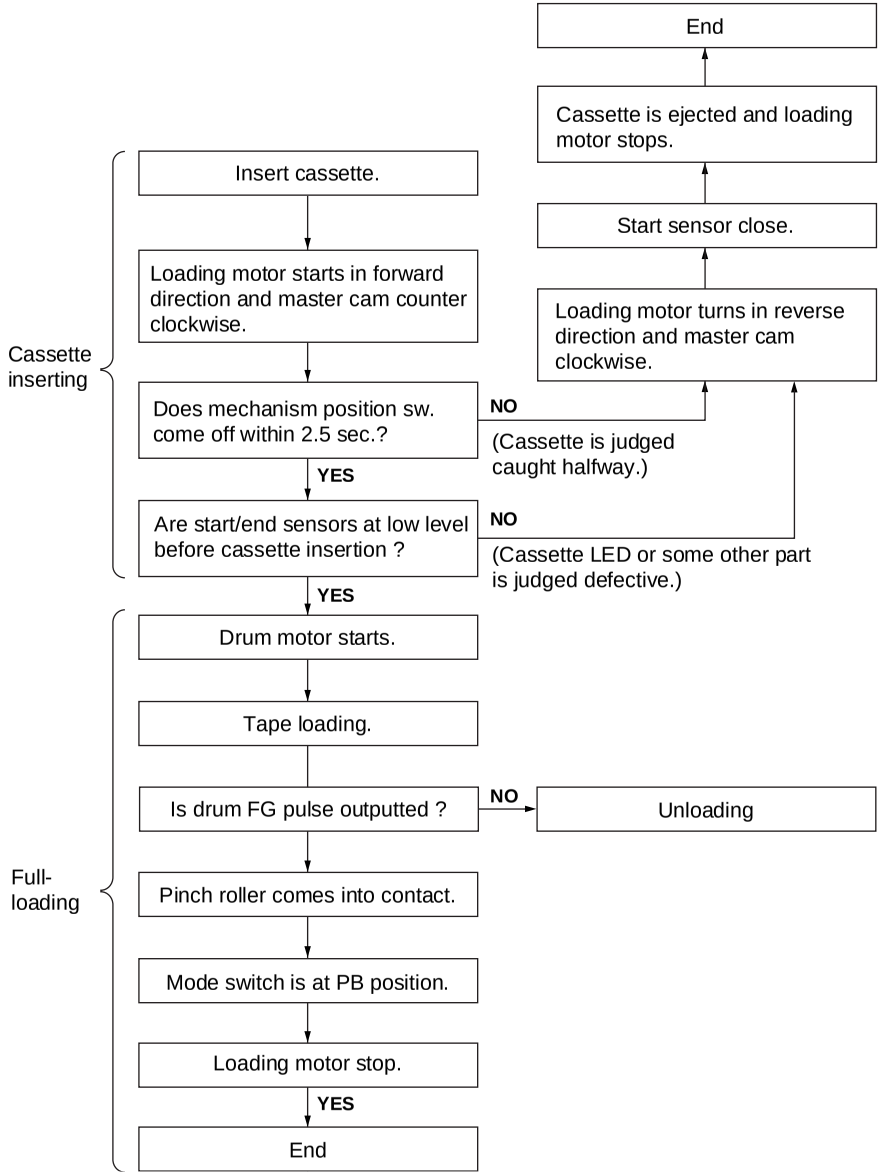


	EJ					UL				PU		PU2		VSR			PB	SLW			FF		STP
Code 1	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	0	1	0	0	1	1	0	1	1	0
Code 2	1	1	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S Sensor	1	1	0	1	1 or 0																				

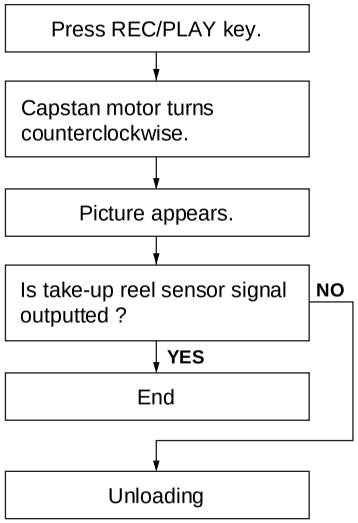


Mecha Mode	Code 2 (Mode SW/inside)	Code 1 (Mode SW/outside)
CS/EJ	1	0
ULD	1	1
PU1	1	1
PU2	0	1
VSR	0	1
PB	0	0
SLOW	0	1
FF	0	1
STOP	0	0

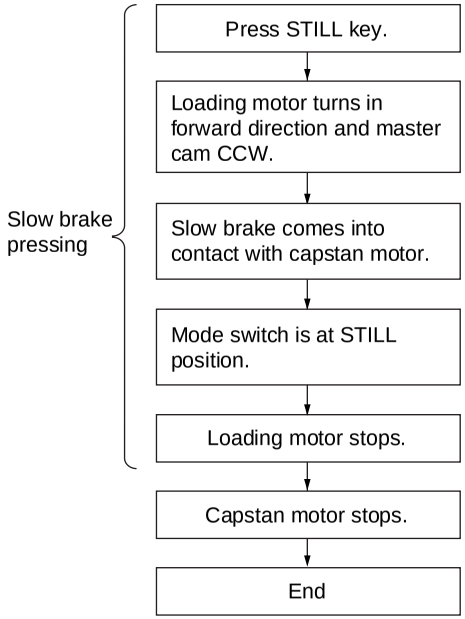
CASSETTE INSERTION → STOP


Cassette inserting
Insert cassette.
Loading motor starts in forward direction and master cam counter clockwise.
Does mechanism position sw. come off within 2.5 sec.?
NO
(Cassette is judged caught halfway.)
YES
Are start/end sensors at low level before cassette insertion ?
NO
(Cassette LED or some other part is judged defective.)
YES
Full-loading
Drum motor starts.
Tape loading.
Is drum FG pulse outputted ?
NO
Unloading
Pinch roller comes into contact.
Mode switch is at PB position.
Loading motor stop.
YES
End
Loading motor turns in reverse direction and master cam clockwise.
Start sensor close.
Cassette is ejected and loading motor stops.
End

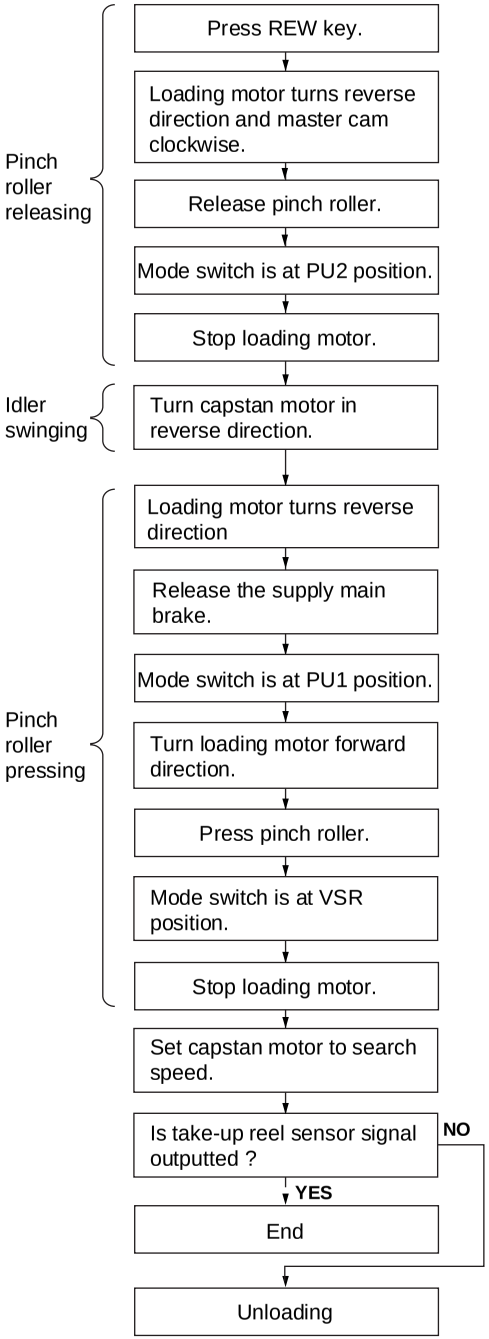
STOP → REC/PLAY



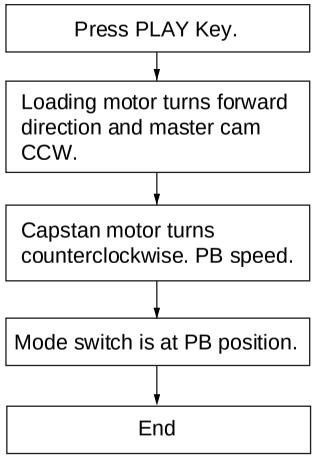
PLAY → STILL


Slow brake pressing
Press STILL key.
Loading motor turns in forward direction and master cam CCW.
Slow brake comes into contact with capstan motor.
Mode switch is at STILL position.
Loading motor stops.
Capstan motor stops.
End

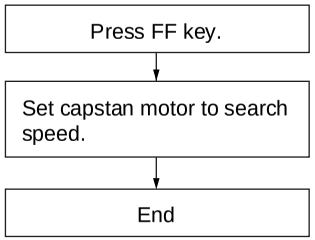
PLAY → VSR


Pinch roller releasing
Press REW key.
Loading motor turns reverse direction and master cam clockwise.
Release pinch roller.
Mode switch is at PU2 position.
Stop loading motor.
Idler swinging
Turn capstan motor in reverse direction.
Pinch roller pressing
Loading motor turns reverse direction
Release the supply main brake.
Mode switch is at PU1 position.
Turn loading motor forward direction.
Press pinch roller.
Mode switch is at VSR position.
Stop loading motor.
Set capstan motor to search speed.
Is take-up reel sensor signal outputted ?
NO
YES
End
Unloading

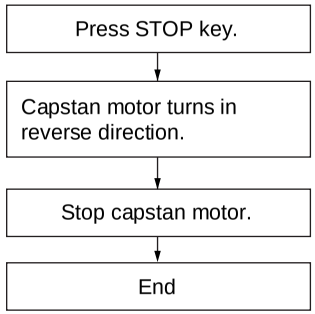
VSR → PLAY


Press PLAY Key.
Loading motor turns forward direction and master cam CCW.
Capstan motor turns counterclockwise. PB speed.
Mode switch is at PB position.
End

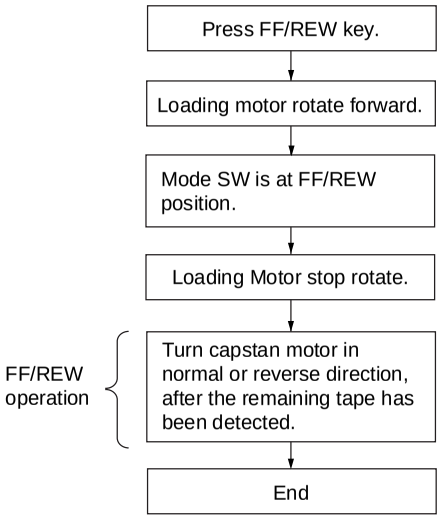
PLAY → VSF



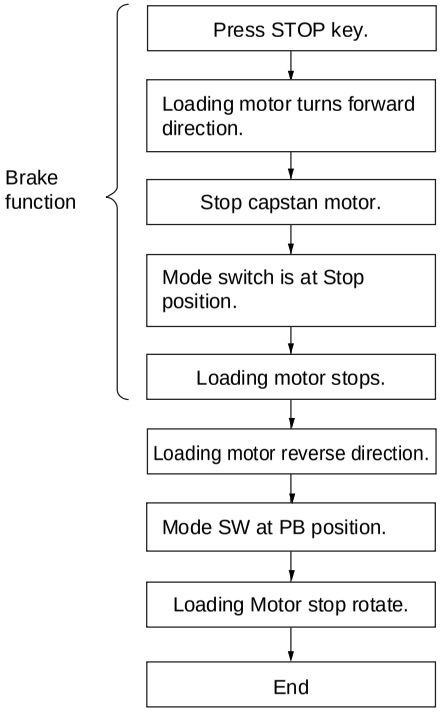
REC/PLAY → STOP



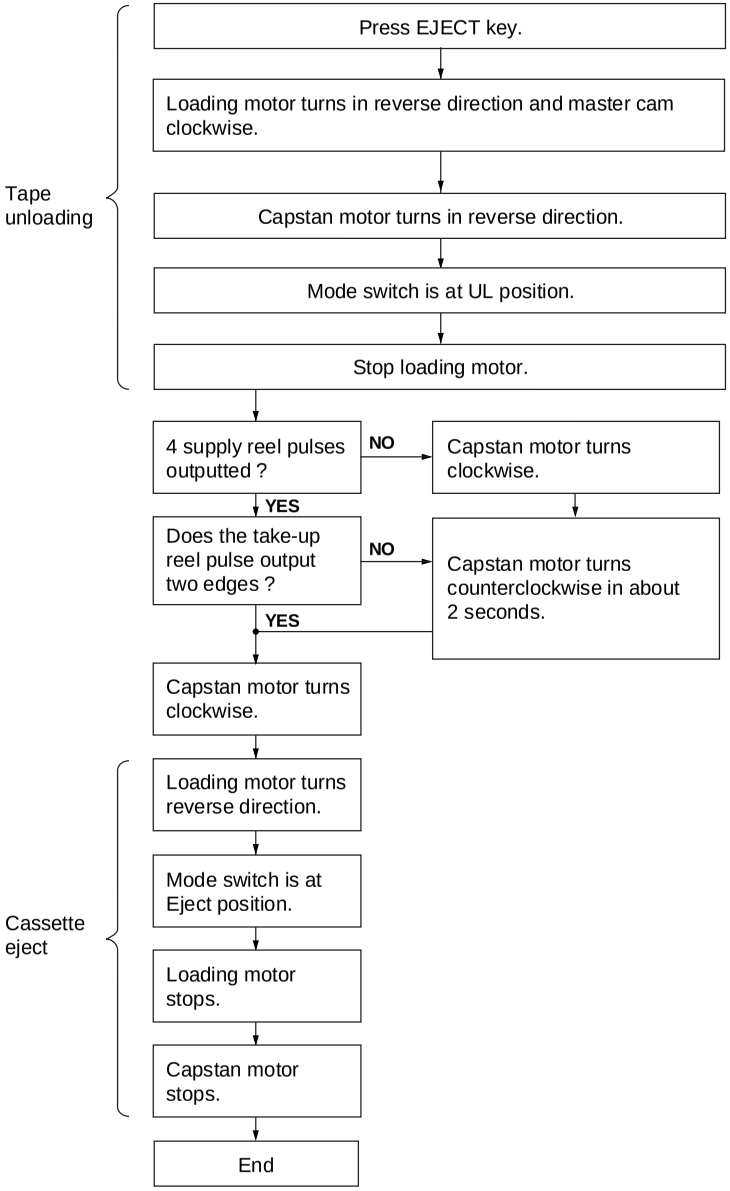
STOP → FF/REW


Press FF/REW key.
Loading motor rotate forward.
Mode SW is at FF/REW position.
Loading Motor stop rotate.
FF/REW operation
Turn capstan motor in normal or reverse direction, after the remaining tape has been detected.
End

FF/REW → STOP

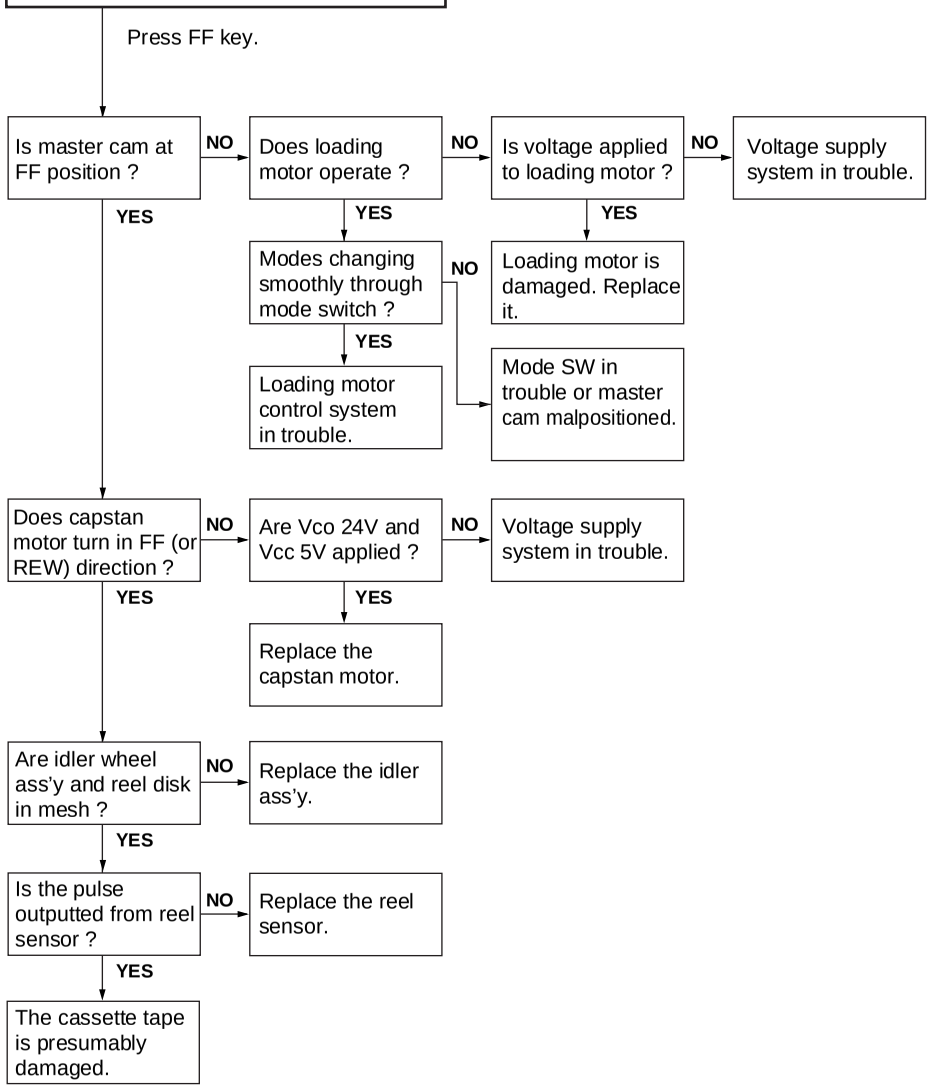


STOP → CASSETTE EJECT

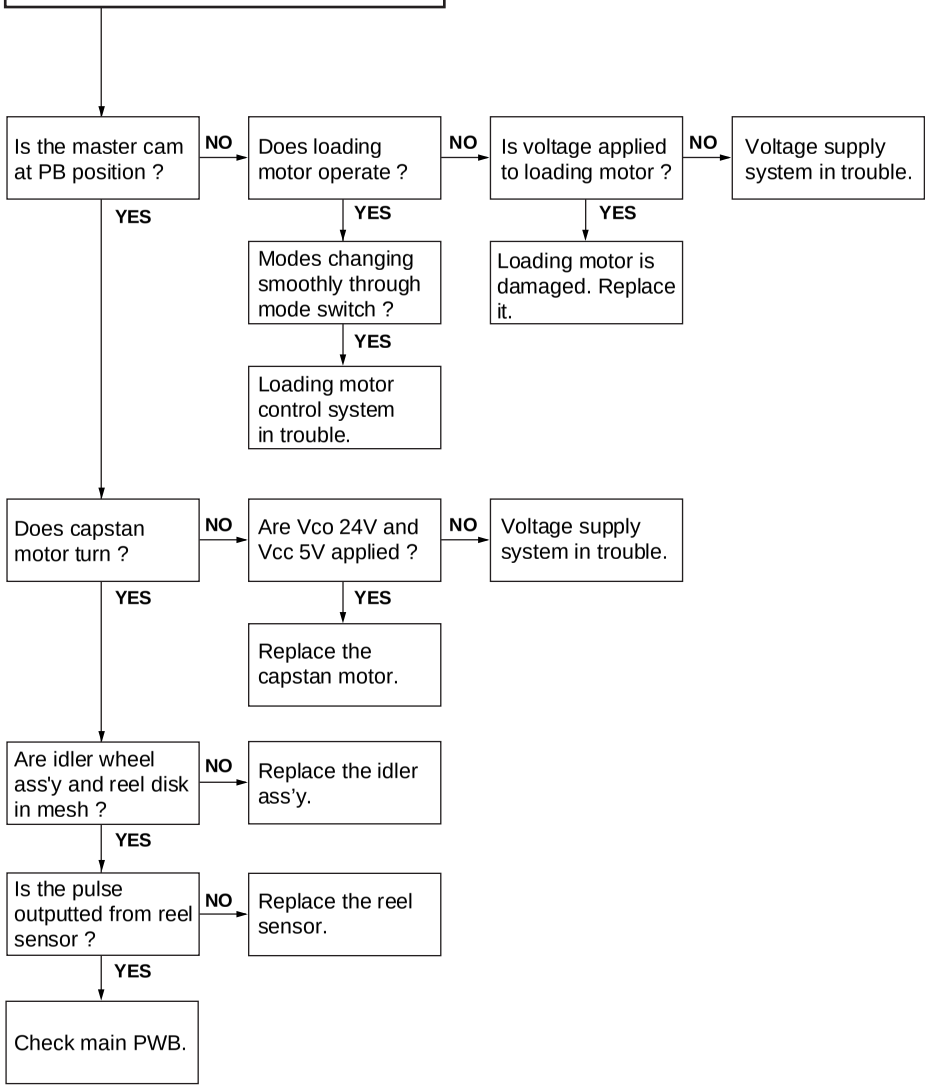

Tape unloading
Press EJECT key.
Loading motor turns in reverse direction and master cam clockwise.
Capstan motor turns in reverse direction.
Mode switch is at UL position.
Stop loading motor.
4 supply reel pulses outputted ?
NO
Capstan motor turns clockwise.
YES
Does the take-up reel pulse output two edges ?
NO
Capstan motor turns counterclockwise in about 2 seconds.
YES
Capstan motor turns clockwise.
Cassette eject
Loading motor turns reverse direction.
Mode switch is at Eject position.
Loading motor stops.
Capstan motor stops.
End

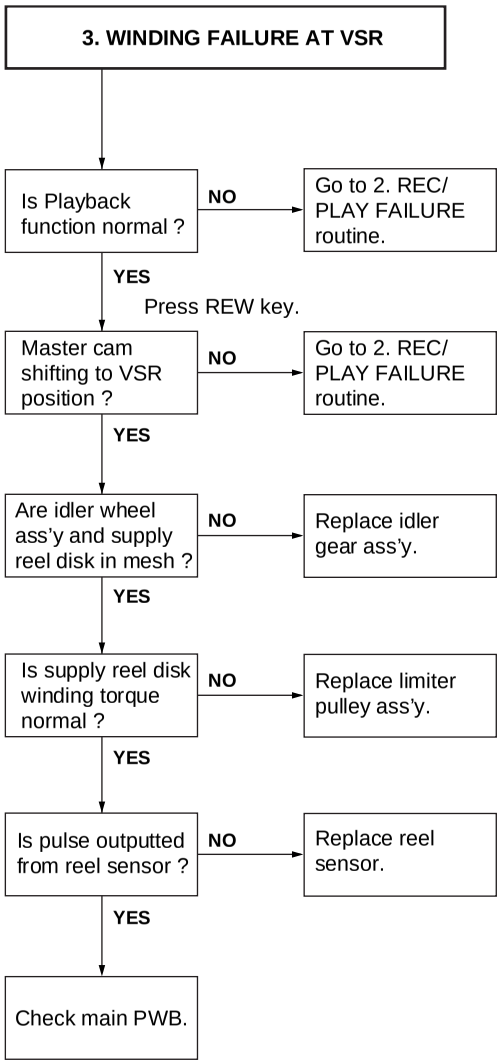
MECHANISM TROUBLESHOOTING

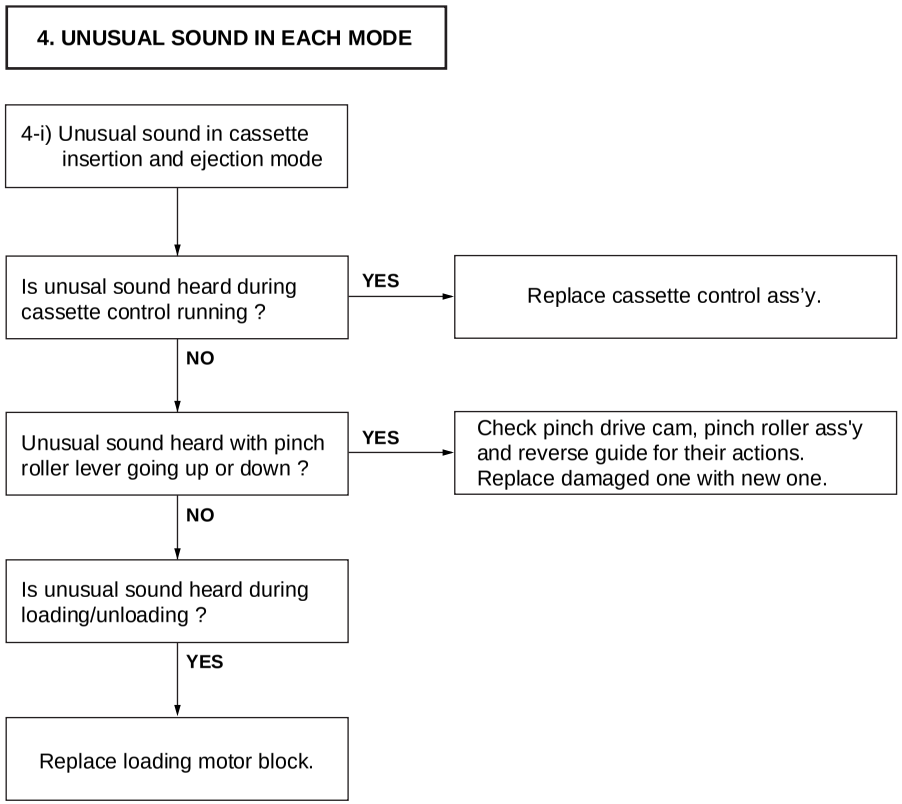
1. FF/REW FAILURE (NO TAPE WINDING)

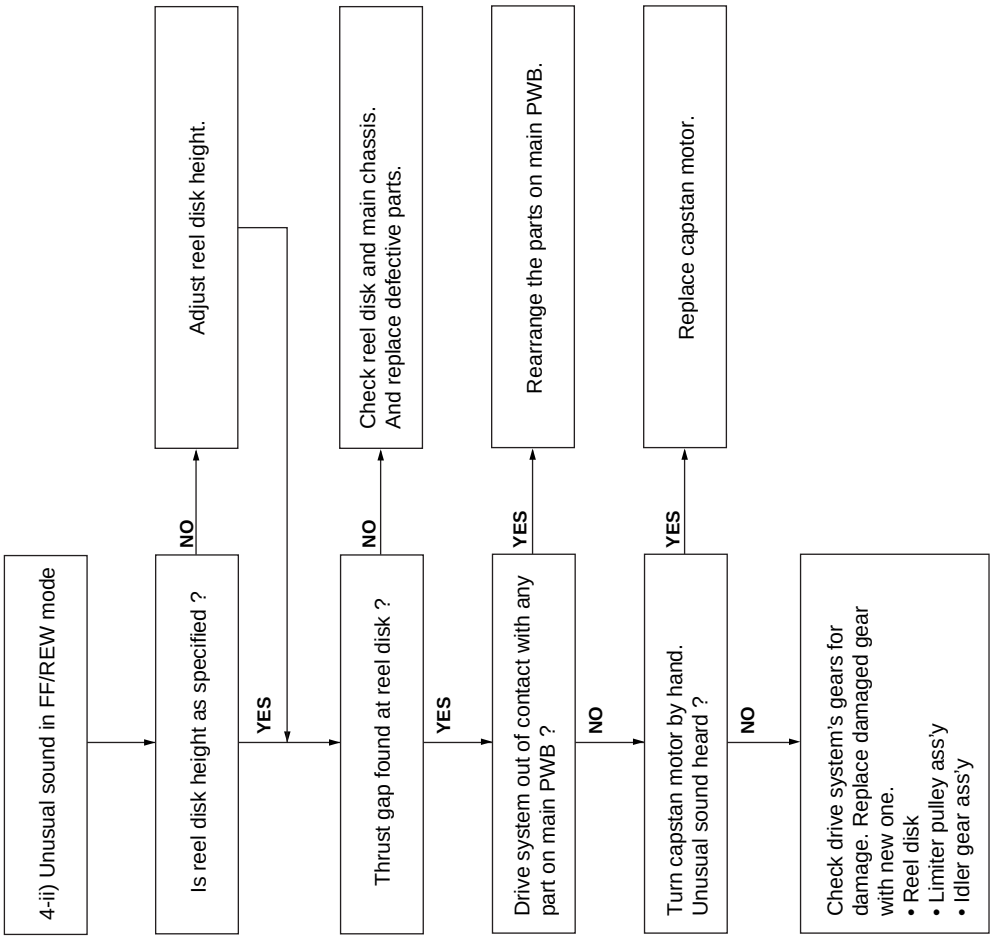


2. REC/PLAY FAILURE (MODE RELEASE)



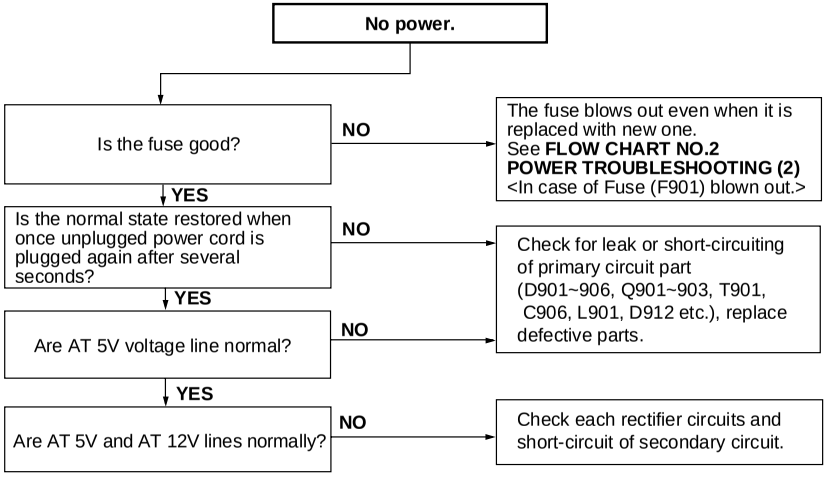

3. WINDING FAILURE AT VSR
Is Playback function normal ?
NO
Go to 2. REC/ PLAY FAILURE routine.
YES
Press REW key.
Master cam shifting to VSR position ?
NO
Go to 2. REC/ PLAY FAILURE routine.
YES
Are idler wheel ass'y and supply reel disk in mesh ?
NO
Replace idler gear ass'y.
YES
Is supply reel disk winding torque normal ?
NO
Replace limiter pulley ass'y.
YES
Is pulse outputted from reel sensor ?
NO
Replace reel sensor.
YES
Check main PWB.


4. UNUSUAL SOUND IN EACH MODE
4-i) Unusual sound in cassette insertion and ejection mode
Is unusal sound heard during cassette control running ?
YES
Replace cassette control ass'y.
NO
Unusual sound heard with pinch roller lever going up or down ?
YES
Check pinch drive cam, pinch roller ass'y and reverse guide for their actions. Replace damaged one with new one.
NO
Is unusual sound heard during loading/unloading ?
YES
Replace loading motor block.

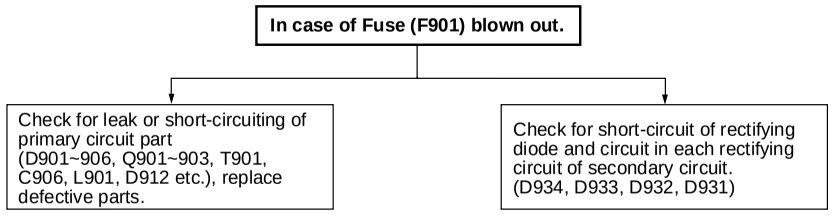

4-ii) Unusual sound in FF/REW mode
Is reel disk height as specified ?
NO
Adjust reel disk height.
YES
Thrust gap found at reel disk ?
NO
Check reel disk and main chassis.
And replace defective parts.
YES
Drive system out of contact with any part on main PWB ?
YES
Rearrange the parts on main PWB.
NO
Turn capstan motor by hand.
Unusual sound heard ?
YES
Replace capstan motor.
NO
Check drive system's gears for damage. Replace damaged gear with new one.
• Reel disk
• Limiter pulley ass'y
• Idler gear ass'y

7. TROUBLESHOOTING

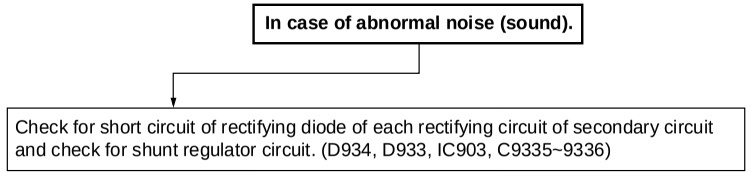
FLOW CHART NO.1 POWER TROUBLESHOOTING(1)


No power.
Is the fuse good?
NO
The fuse blows out even when it is replaced with new one.
See FLOW CHART NO.2 POWER TROUBLESHOOTING (2)
<In case of Fuse (F901) blown out.>
YES
Is the normal state restored when once unplugged power cord is plugged again after several seconds?
NO
Check for leak or short-circuiting of primary circuit part (D901~906, Q901~903, T901, C906, L901, D912 etc.), replace defective parts.
YES
Are AT 5V voltage line normal?
NO
YES
Are AT 5V and AT 12V lines normally?
NO
Check each rectifier circuits and short-circuit of secondary circuit.

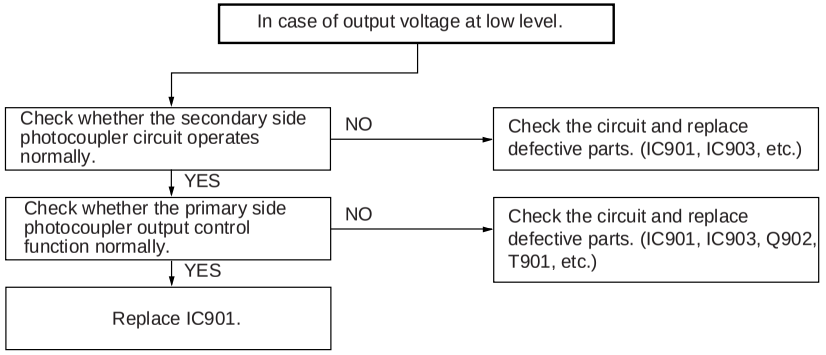
FLOW CHART NO.2 POWER TROUBLESHOOTING(2)


In case of Fuse (F901) blown out.
Check for leak or short-circuiting of primary circuit part (D901~906, Q901~903, T901, C906, L901, D912 etc.), replace defective parts.
Check for short-circuit of rectifying diode and circuit in each rectifying circuit of secondary circuit. (D934, D933, D932, D931)

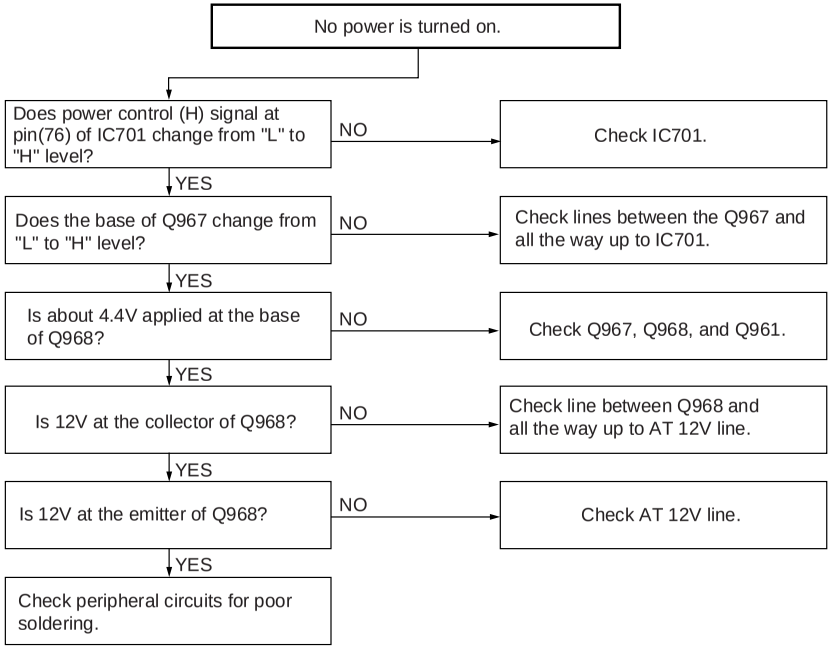
FLOW CHART NO.3 POWER TROUBLESHOOTING(3)


In case of abnormal noise (sound).
Check for short circuit of rectifying diode of each rectifying circuit of secondary circuit and check for shunt regulator circuit. (D934, D933, IC903, C9335~9336)

FLOW CHART NO.4 POWER TROUBLESHOOTING(4)


In case of output voltage at low level.
Check whether the secondary side photocoupler circuit operates normally.
NO
Check the circuit and replace defective parts. (IC901, IC903, etc.)
YES
Check whether the primary side photocoupler output control function normally.
NO
Check the circuit and replace defective parts. (IC901, IC903, Q902, T901, etc.)
YES
Replace IC901.

FLOW CHART NO.5 SYSTEM CONTROL TROUBLESHOOTING(1)


No power is turned on.
Does power control (H) signal at pin(76) of IC701 change from "L" to "H" level?
NO
Check IC701.
YES
Does the base of Q967 change from "L" to "H" level?
NO
Check lines between the Q967 and all the way up to IC701.
YES
Is about 4.4V applied at the base of Q968?
NO
Check Q967, Q968, and Q961.
YES
Is 12V at the collector of Q968?
NO
Check line between Q968 and all the way up to AT 12V line.
YES
Is 12V at the emitter of Q968?
NO
Check AT 12V line.
YES
Check peripheral circuits for poor soldering.

FLOW CHART NO.6 POWER TROUBLESHOOTING(6)

In case of output voltage at low level.

Check peripheral circuits IC901, IC903, C9336, R932, R935, R930 and R931. — NO → The result of IC901, IC903, C9336, R932, R935, R930 and R931. Replace where necessary.

YES

Check IC903 and peripheral circuits of IC901. — NO → Replace IC901.

YES

Check short-circuit or leak of T901. — NO → Replace T901.

YES

Check primary circuit and peripheral circuit of Q901.

FLOW CHART NO.7 KEY CONTROL TROUBLESHOOTING(2)

Key-in input is not received <Except for jog shuttle mode.>

Does the key switch make good contact, when the cassette tape is inserted? — NO → Check switch contact.

YES

Is there the function control voltage inputted at the pins(88) and (89) of IC701, when the keys are activated? — NO → Check peripheral circuit of pins(88) and (89) of IC701, and the function keys.

YES

Replace IC701.

(TP802)	4.9	CASSETTE			
(TP801)	3.8	TEST	FF	(S886)	
(S882)	3.1	STOP	REW	(S884)	
(S881)	2.5	PLAY	REC/RENTAL	(S808)	
(S804)	1.9	CH-	P/STILL	(S807)	
(S803)	1.2	MENU			
(S802)	0.6	EJECT	CH+	(S806)	
(S801)	0V	POWER	SET	(S805)	
		Key0	Key1		

FLOW CHART NO.8 INFRARED R/C TROUBLESHOOTING

No operation is possible from the infrared remote control.

Does the infrared remote control function? — NO → Replace infrared remote control as required.

YES

Is the supply voltage of 5V fed to C805 of (+) side? — NO → Check AT 5V and GND lines.

YES

Is "L" pulse sent out from pin(1) of the receiver when the infrared remote control is activated? — NO → Replace receiver.

YES

Check between at pin(1) of receiver and all the way up through to pin (4) of IC701. — NO → Replace IC701.

FLOW CHART NO.9 CASSETTE CONTROL TROUBLESHOOTING(1)

A cassette tape is not take in.

Is the cassette housing distorted? — NO → Fix or replace the cassette housing.

YES

Does the start sensor cover go to open when the cassette tape is inserted? — NO → Check start sensor cover.

YES

Does pin(67) of IC701 change from"H" to "L" level when the cassette tape is inserted? — NO → Check line between start sensor and pin (67) of IC701

YES

Does pin(11) of IC706 go to a "H" level when the cassette tape is inserted? — NO → Check line between pin (72) of IC701 and pin(31) of IC706.

YES → Is the supply voltage of 12V fed to pin (13) of IC706? — NO → Check M 12V lines.

Check IC706. ← NO

Does pin(31) of IC706 change to about 10V when the cassette tape in inserted?

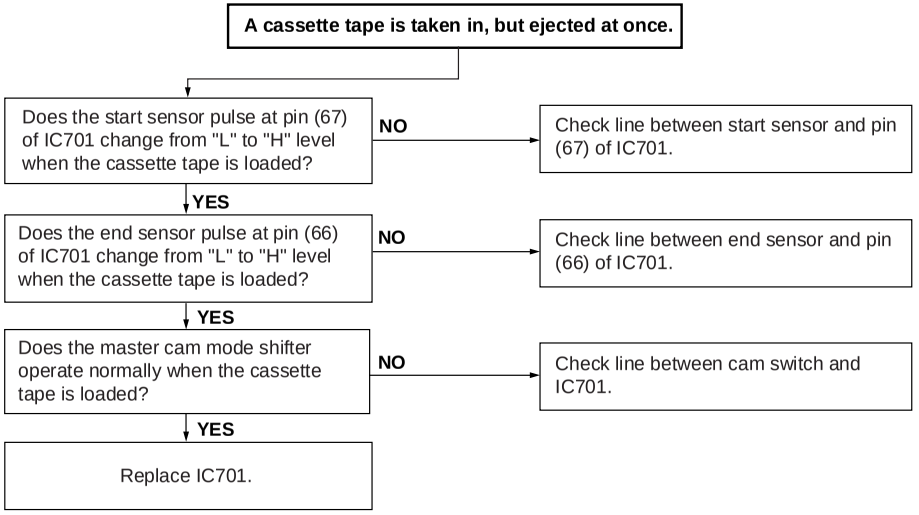
YES

Is the specified voltage applied at the loading motor terminal when the cassette tape is inserted? — NO → Check line between IC706 and loading motor.

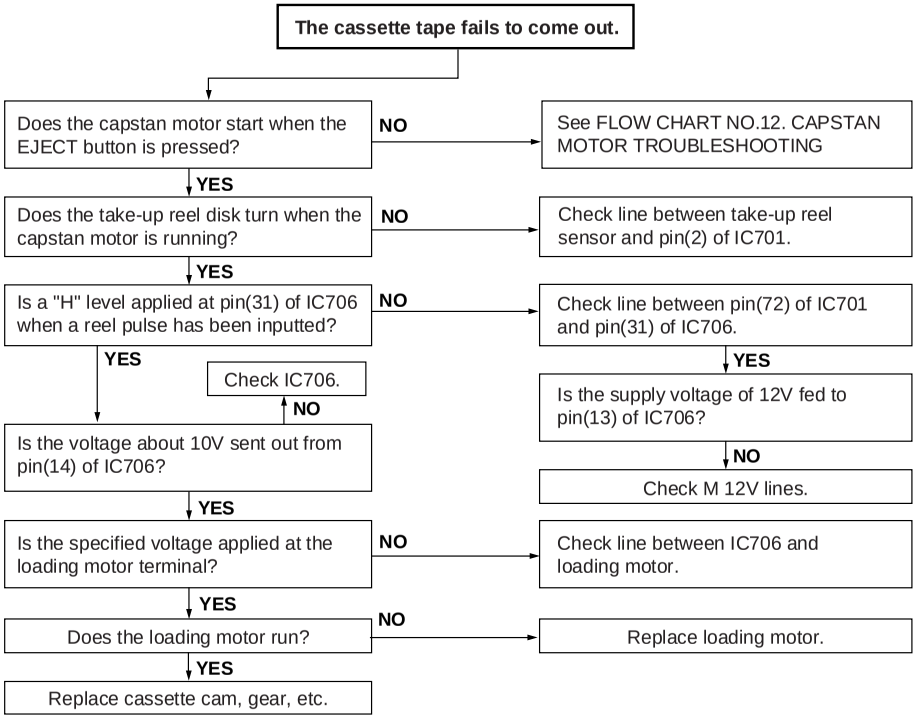
YES

Replace loading motor.

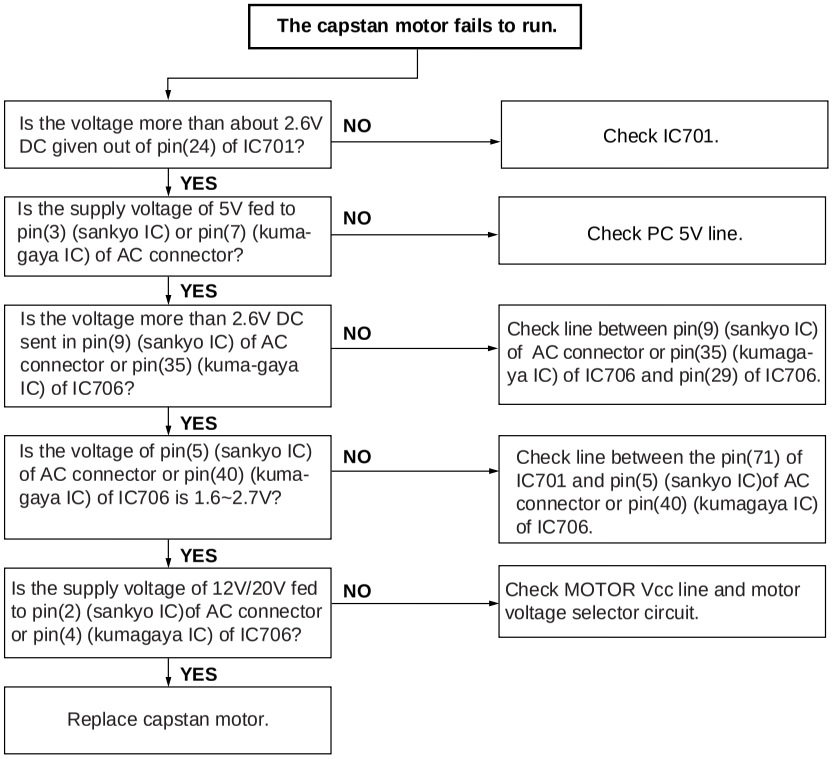
FLOW CHART NO.10 CASSETTE CONTROL TROUBLESHOOTING(2)


A cassette tape is taken in, but ejected at once.
Does the start sensor pulse at pin (67) of IC701 change from "L" to "H" level when the cassette tape is loaded?
NO
Check line between start sensor and pin (67) of IC701.
YES
Does the end sensor pulse at pin (66) of IC701 change from "L" to "H" level when the cassette tape is loaded?
NO
Check line between end sensor and pin (66) of IC701.
YES
Does the master cam mode shifter operate normally when the cassette tape is loaded?
NO
Check line between cam switch and IC701.
YES
Replace IC701.

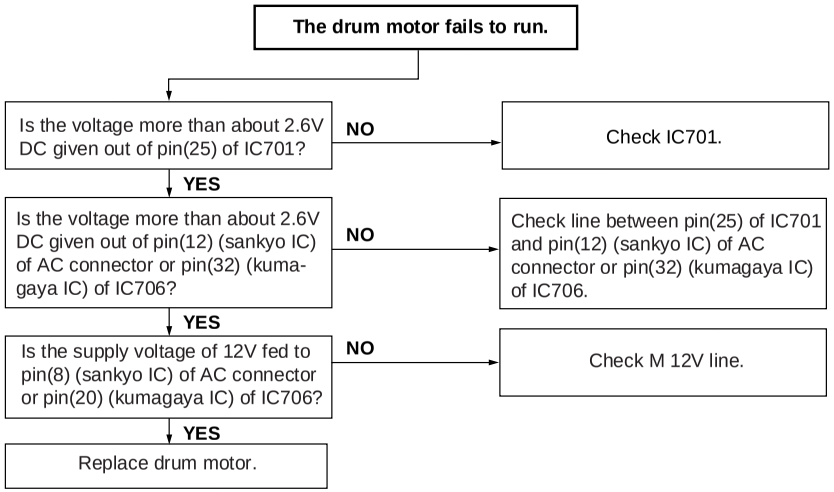
FLOW CHART NO.11 LOADING MOTOR AND EJECT TROUBLESHOOTING


The cassette tape fails to come out.
Does the capstan motor start when the EJECT button is pressed?
NO
See FLOW CHART NO.12. CAPSTAN MOTOR TROUBLESHOOTING
YES
Does the take-up reel disk turn when the capstan motor is running?
NO
Check line between take-up reel sensor and pin(2) of IC701.
YES
Is a "H" level applied at pin(31) of IC706 when a reel pulse has been inputted?
NO
Check line between pin(72) of IC701 and pin(31) of IC706.
YES
Check IC706.
NO
Is the voltage about 10V sent out from pin(14) of IC706?
YES
Is the specified voltage applied at the loading motor terminal?
NO
Check line between IC706 and loading motor.
YES
Does the loading motor run?
NO
Replace loading motor.
YES
Replace cassette cam, gear, etc.
YES
Is the supply voltage of 12V fed to pin(13) of IC706?
NO
Check M 12V lines.

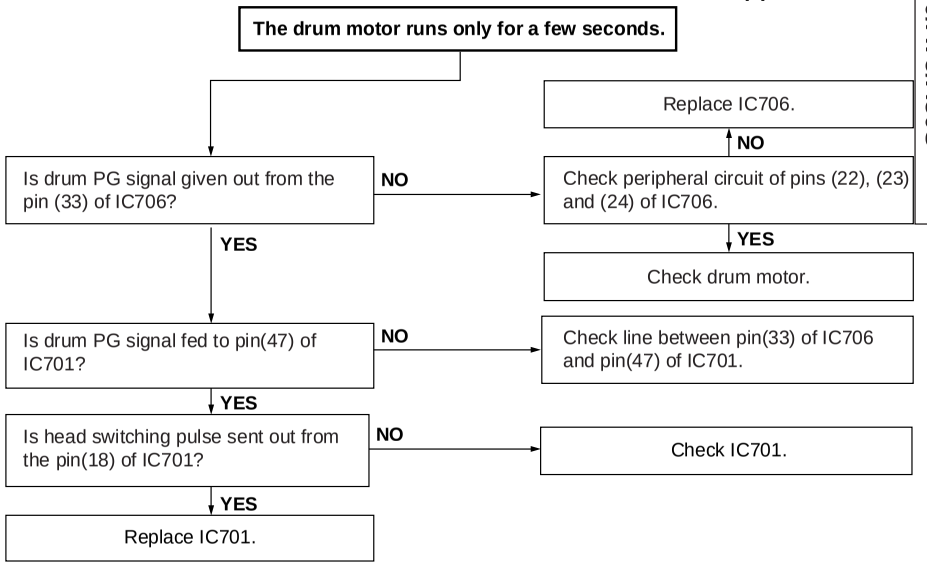
FLOW CHART NO.12 CAPSTAN MOTOR TROUBLESHOOTING


The capstan motor fails to run.
Is the voltage more than about 2.6V DC given out of pin(24) of IC701?
NO
Check IC701.
YES
Is the supply voltage of 5V fed to pin(3) (sankyo IC) or pin(7) (kuma-gaya IC) of AC connector?
NO
Check PC 5V line.
YES
Is the voltage more than 2.6V DC sent in pin(9) (sankyo IC) of AC connector or pin(35) (kuma-gaya IC) of IC706?
NO
Check line between pin(9) (sankyo IC) of AC connector or pin(35) (kumaga-ya IC) of IC706 and pin(29) of IC706.
YES
Is the voltage of pin(5) (sankyo IC) of AC connector or pin(40) (kuma-gaya IC) of IC706 is 1.6~2.7V?
NO
Check line between the pin(71) of IC701 and pin(5) (sankyo IC)of AC connector or pin(40) (kumagaya IC) of IC706.
YES
Is the supply voltage of 12V/20V fed to pin(2) (sankyo IC)of AC connector or pin(4) (kumagaya IC) of IC706?
NO
Check MOTOR Vcc line and motor voltage selector circuit.
YES
Replace capstan motor.

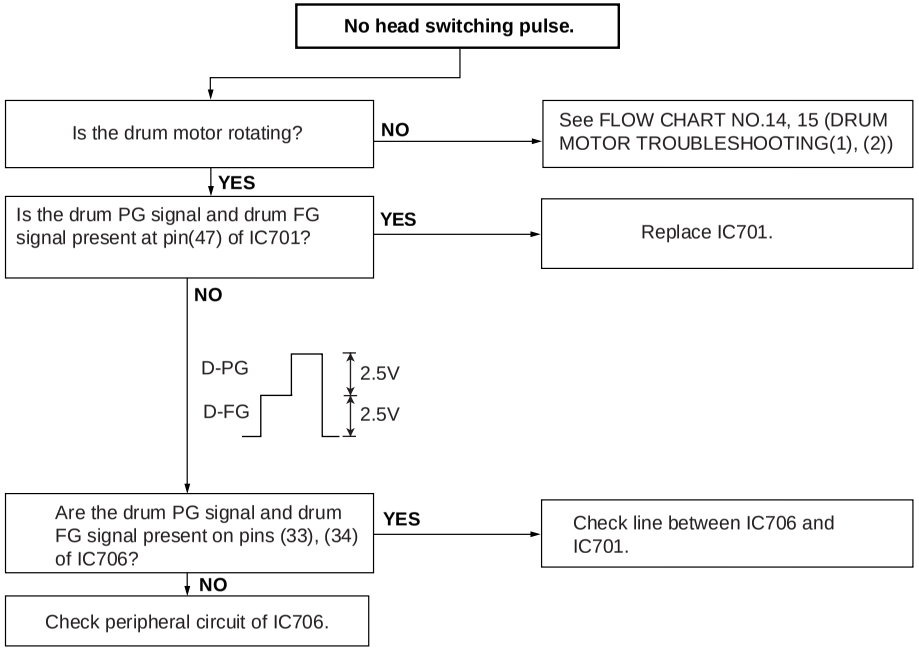
FLOW CHART NO.13 DRUM MOTOR TROUBLESHOOTING(1)


The drum motor fails to run.
Is the voltage more than about 2.6V DC given out of pin(25) of IC701?
NO
Check IC701.
YES
Is the voltage more than about 2.6V DC given out of pin(12) (sankyo IC) of AC connector or pin(32) (kumagaya IC) of IC706?
NO
Check line between pin(25) of IC701 and pin(12) (sankyo IC) of AC connector or pin(32) (kumagaya IC) of IC706.
YES
Is the supply voltage of 12V fed to pin(8) (sankyo IC) of AC connector or pin(20) (kumagaya IC) of IC706?
NO
Check M 12V line.
YES
Replace drum motor.

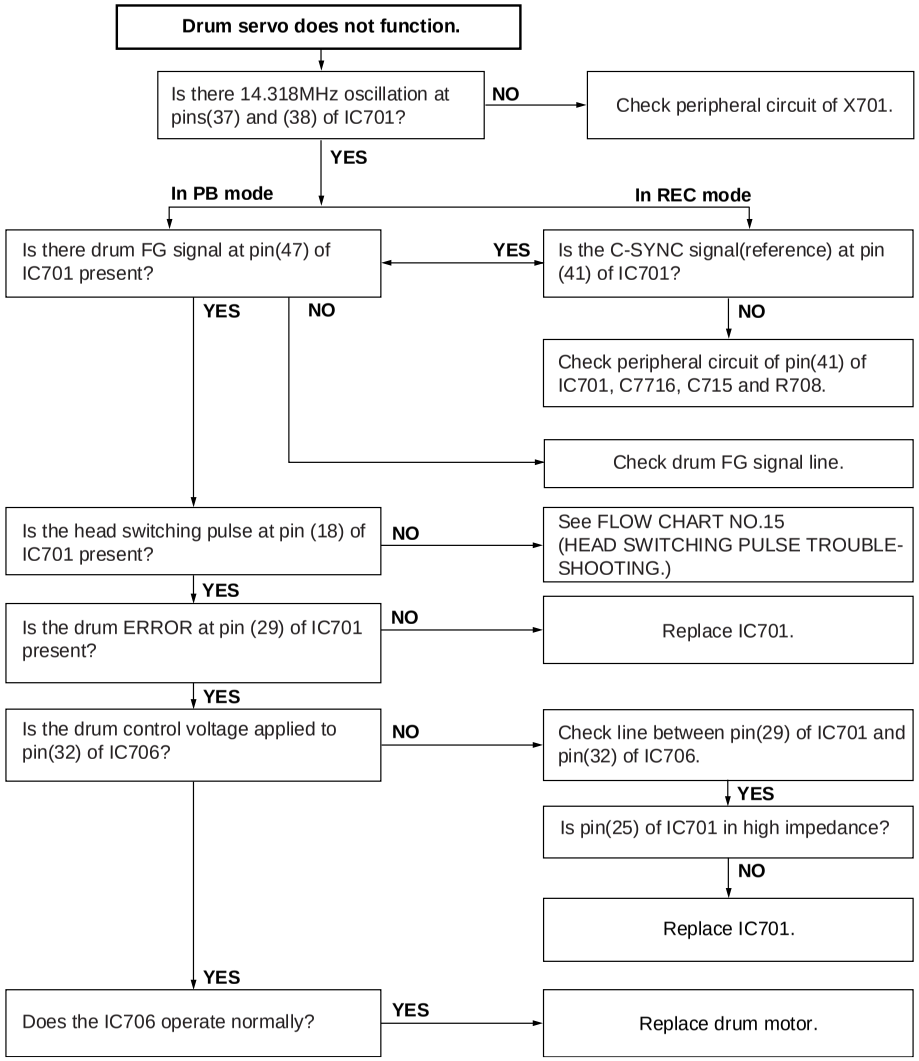
FLOW CHART NO.14 DRUM MOTOR TROUBLESHOOTING(2)


The drum motor runs only for a few seconds.
Replace IC706.
NO
Is drum PG signal given out from the pin (33) of IC706?
NO
Check peripheral circuit of pins (22), (23) and (24) of IC706.
YES
YES
Check drum motor.
Is drum PG signal fed to pin(47) of IC701?
NO
Check line between pin(33) of IC706 and pin(47) of IC701.
YES
Is head switching pulse sent out from the pin(18) of IC701?
NO
Check IC701.
YES
Replace IC701.

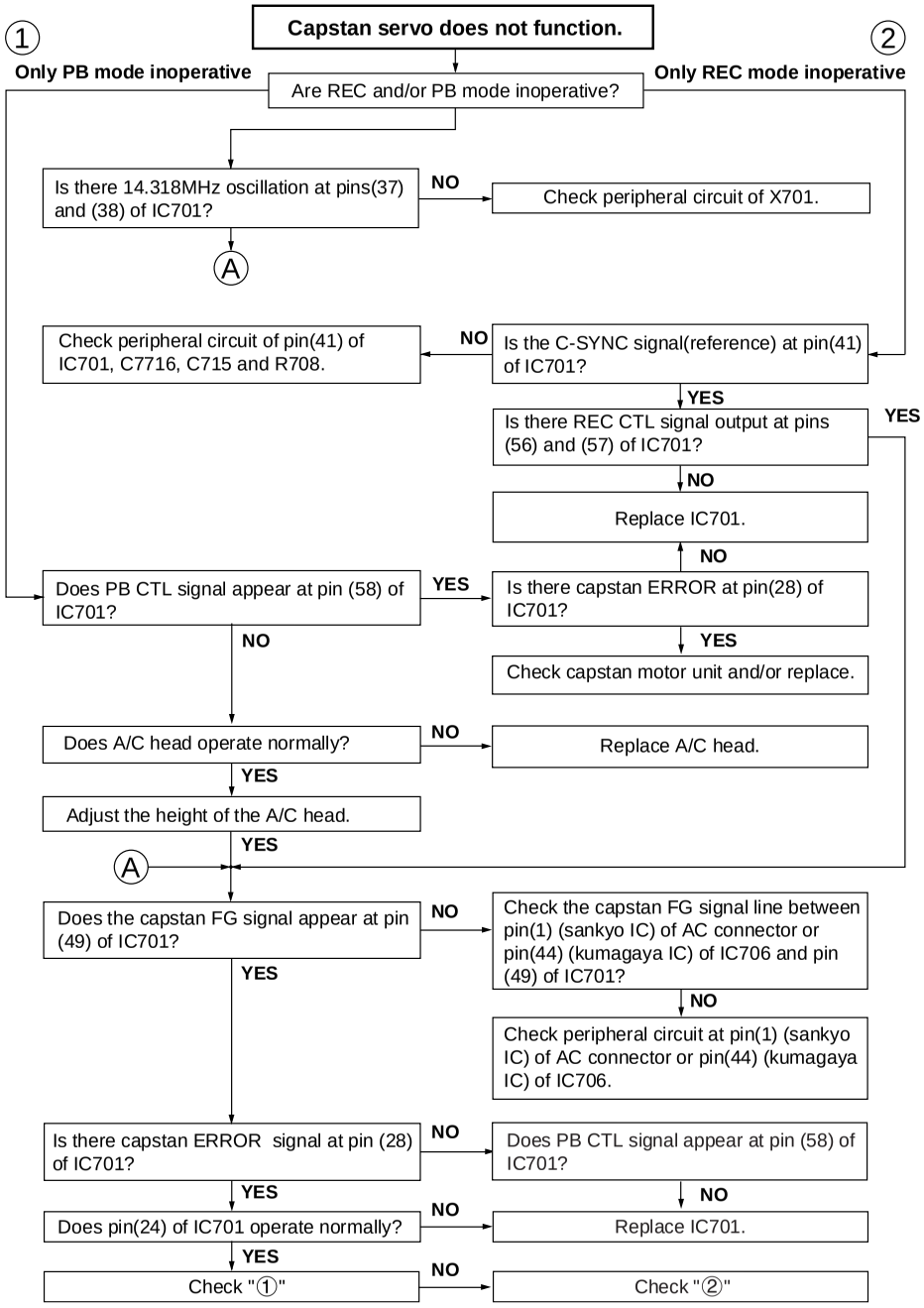
FLOW CHART NO.15 HEAD SWITCHING PULSE TROUBLESHOOTING.



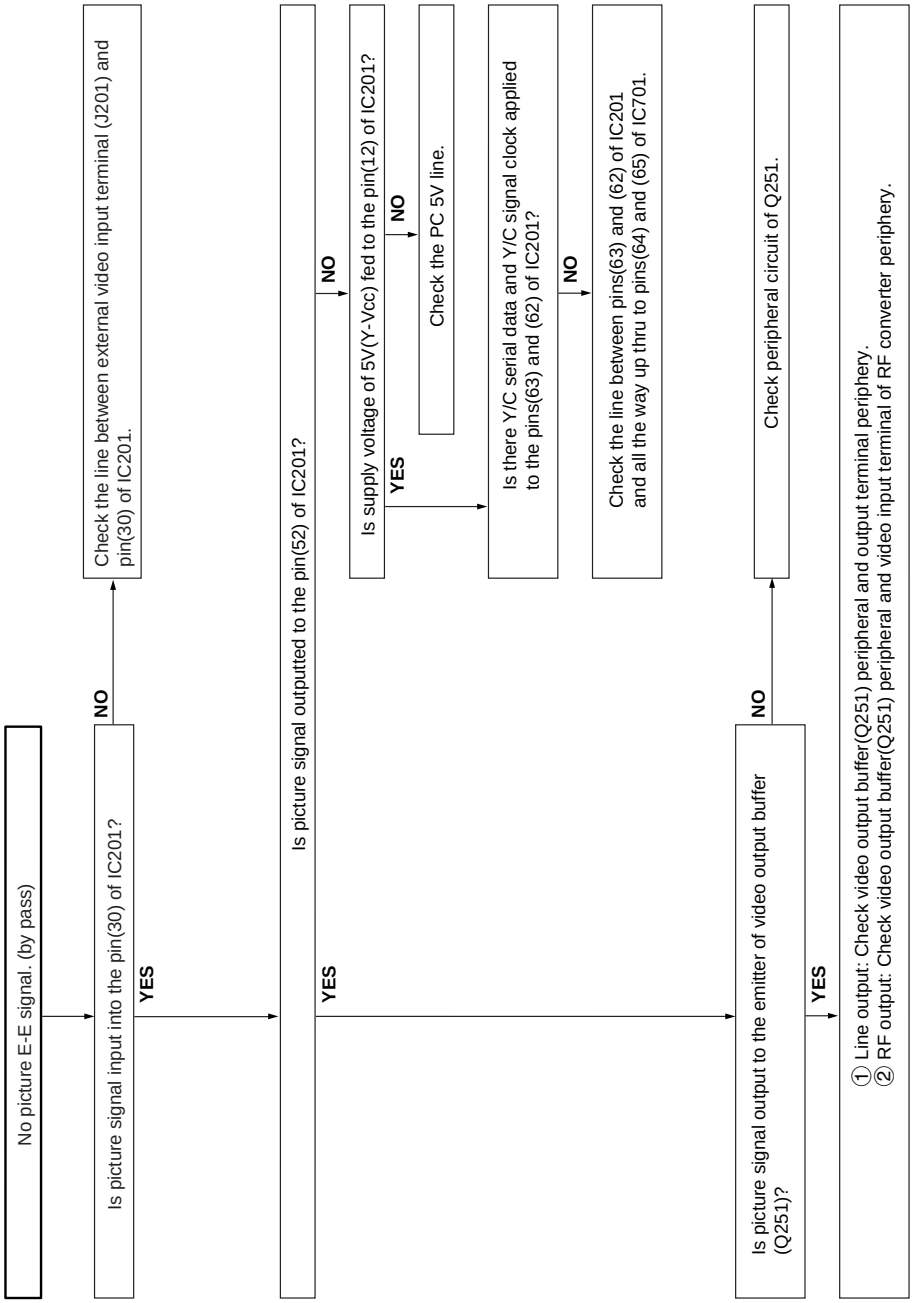
FLOW CHART NO.16 DRUM SERVO TROUBLESHOOTING


Drum servo does not function.
Is there 14.318MHz oscillation at pins(37) and (38) of IC701?
NO
Check peripheral circuit of X701.
YES
In PB mode
In REC mode
Is there drum FG signal at pin(47) of IC701 present?
YES
Is the C-SYNC signal(reference) at pin (41) of IC701?
YES
NO
NO
Check peripheral circuit of pin(41) of IC701, C7716, C715 and R708.
Check drum FG signal line.
Is the head switching pulse at pin (18) of IC701 present?
NO
See FLOW CHART NO.15 (HEAD SWITCHING PULSE TROUBLE-SHOOTING.)
YES
Is the drum ERROR at pin (29) of IC701 present?
NO
Replace IC701.
YES
Is the drum control voltage applied to pin(32) of IC706?
NO
Check line between pin(29) of IC701 and pin(32) of IC706.
YES
Is pin(25) of IC701 in high impedance?
NO
Replace IC701.
YES
Does the IC706 operate normally?
YES
Replace drum motor.

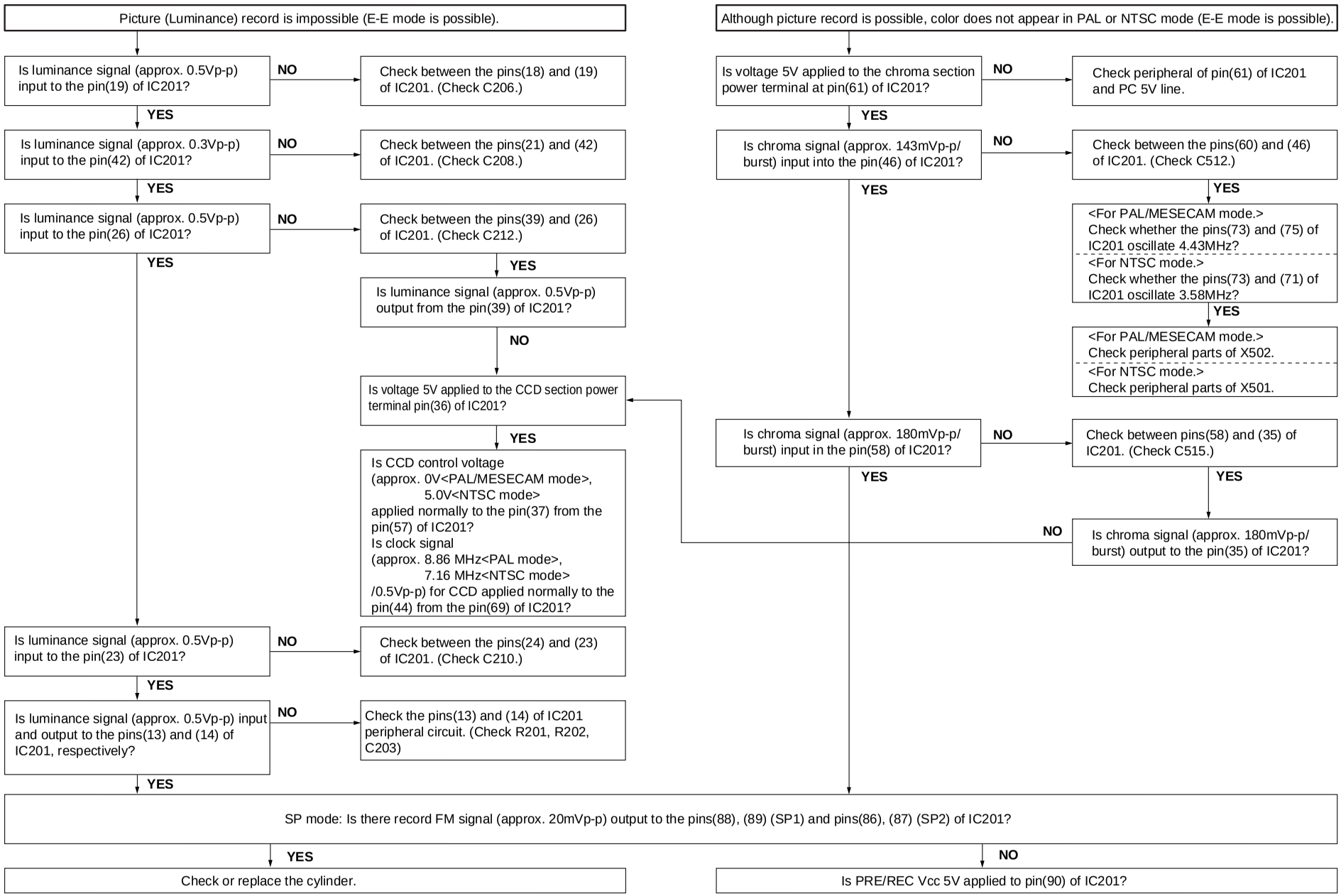
FLOW CHART NO.17 CAPSTAN SERVO TROUBLESHOOTING


Capstan servo does not function.
①
②
Only PB mode inoperative
Only REC mode inoperative
Are REC and/or PB mode inoperative?
Is there 14.318MHz oscillation at pins(37) and (38) of IC701?
NO
Check peripheral circuit of X701.
A
Check peripheral circuit of pin(41) of IC701, C7716, C715 and R708.
NO
Is the C-SYNC signal(reference) at pin(41) of IC701?
YES
Is there REC CTL signal output at pins (56) and (57) of IC701?
YES
NO
Replace IC701.
NO
Does PB CTL signal appear at pin (58) of IC701?
YES
Is there capstan ERROR at pin(28) of IC701?
YES
NO
Check capstan motor unit and/or replace.
Does A/C head operate normally?
NO
Replace A/C head.
YES
Adjust the height of the A/C head.
YES
A
Does the capstan FG signal appear at pin (49) of IC701?
NO
Check the capstan FG signal line between pin(1) (sankyo IC) of AC connector or pin(44) (kumagaya IC) of IC706 and pin (49) of IC701?
YES
NO
Check peripheral circuit at pin(1) (sankyo IC) of AC connector or pin(44) (kumagaya IC) of IC706.
Is there capstan ERROR signal at pin (28) of IC701?
NO
Does PB CTL signal appear at pin (58) of IC701?
YES
NO
Does pin(24) of IC701 operate normally?
NO
Replace IC701.
YES
Check "①"
NO
Check "②"

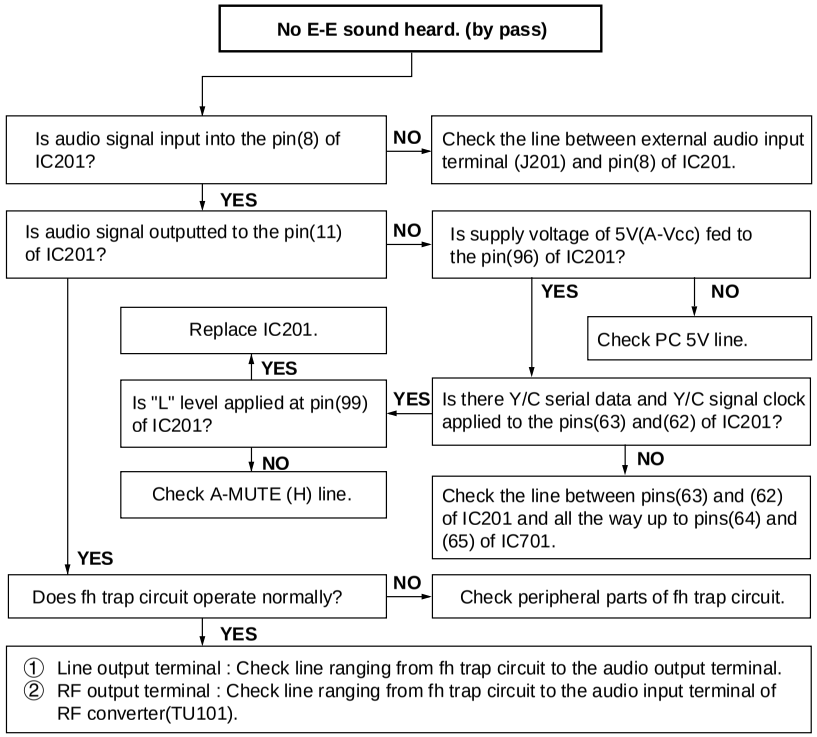
FLOW CHART NO.18 E-E MODE TROUBLESHOOTING


No picture E-E signal. (by pass)
Is picture signal input into the pin(30) of IC201?
NO
Check the line between external video input terminal (J201) and pin(30) of IC201.
YES
Is picture signal outputted to the pin(52) of IC201?
NO
Is supply voltage of 5V(Y-Vcc) fed to the pin(12) of IC201?
NO
Check the PC 5V line.
YES
Is there Y/C serial data and Y/C signal clock applied to the pins(63) and (62) of IC201?
NO
Check the line between pins(63) and (62) of IC201 and all the way up thru to pins(64) and (65) of IC701.
YES
Is picture signal output to the emitter of video output buffer (Q251)?
NO
Check peripheral circuit of Q251.
YES
① Line output: Check video output buffer(Q251) peripheral and output terminal periphery.
② RF output: Check video output buffer(Q251) peripheral and video input terminal of RF converter periphery.

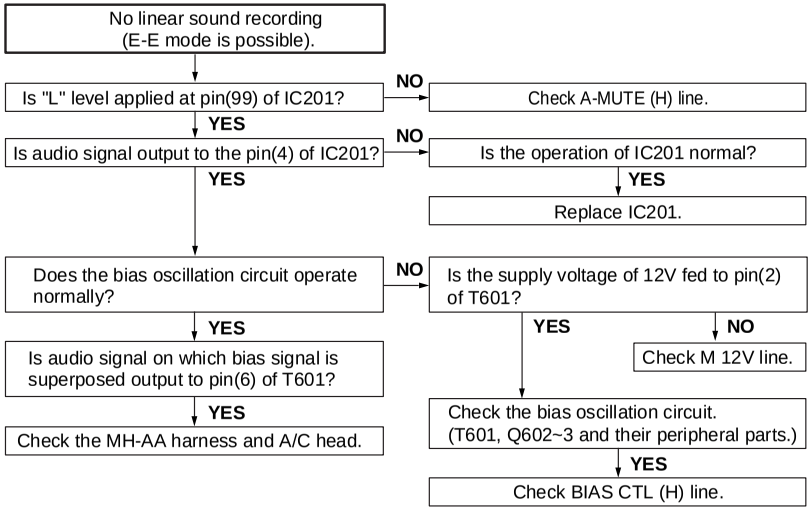
FLOW CHART NO.19 RECORDING MODE TROUBLESHOOTING


Picture (Luminance) record is impossible (E-E mode is possible).
Is luminance signal (approx. 0.5Vp-p) input to the pin(19) of IC201?
NO
Check between the pins(18) and (19) of IC201. (Check C206.)
YES
Is luminance signal (approx. 0.3Vp-p) input to the pin(42) of IC201?
NO
Check between the pins(21) and (42) of IC201. (Check C208.)
YES
Is luminance signal (approx. 0.5Vp-p) input to the pin(26) of IC201?
NO
Check between the pins(39) and (26) of IC201. (Check C212.)
YES
Is luminance signal (approx. 0.5Vp-p) output from the pin(39) of IC201?
NO
Is voltage 5V applied to the CCD section power terminal pin(36) of IC201?
YES
Is CCD control voltage (approx. 0V<PAL/MESECAM mode>, 5.0V<NTSC mode> applied normally to the pin(37) from the pin(57) of IC201? Is clock signal (approx. 8.86 MHz<PAL mode>, 7.16 MHz<NTSC mode> /0.5Vp-p) for CCD applied normally to the pin(44) from the pin(69) of IC201?
YES
Is luminance signal (approx. 0.5Vp-p) input to the pin(23) of IC201?
NO
Check between the pins(24) and (23) of IC201. (Check C210.)
YES
Is luminance signal (approx. 0.5Vp-p) input and output to the pins(13) and (14) of IC201, respectively?
NO
Check the pins(13) and (14) of IC201 peripheral circuit. (Check R201, R202, C203)
YES
Although picture record is possible, color does not appear in PAL or NTSC mode (E-E mode is possible).
Is voltage 5V applied to the chroma section power terminal at pin(61) of IC201?
NO
Check peripheral of pin(61) of IC201 and PC 5V line.
YES
Is chroma signal (approx. 143mVp-p/ burst) input into the pin(46) of IC201?
NO
Check between the pins(60) and (46) of IC201. (Check C512.)
YES
YES
<For PAL/MESECAM mode.> Check whether the pins(73) and (75) of IC201 oscillate 4.43MHz?
<For NTSC mode.> Check whether the pins(73) and (71) of IC201 oscillate 3.58MHz?
YES
<For PAL/MESECAM mode.> Check peripheral parts of X502.
<For NTSC mode.> Check peripheral parts of X501.
Is chroma signal (approx. 180mVp-p/ burst) input in the pin(58) of IC201?
NO
Check between pins(58) and (35) of IC201. (Check C515.)
YES
YES
NO
Is chroma signal (approx. 180mVp-p/ burst) output to the pin(35) of IC201?
SP mode: Is there record FM signal (approx. 20mVp-p) output to the pins(88), (89) (SP1) and pins(86), (87) (SP2) of IC201?
YES
NO
Check or replace the cylinder.
Is PRE/REC Vcc 5V applied to pin(90) of IC201?

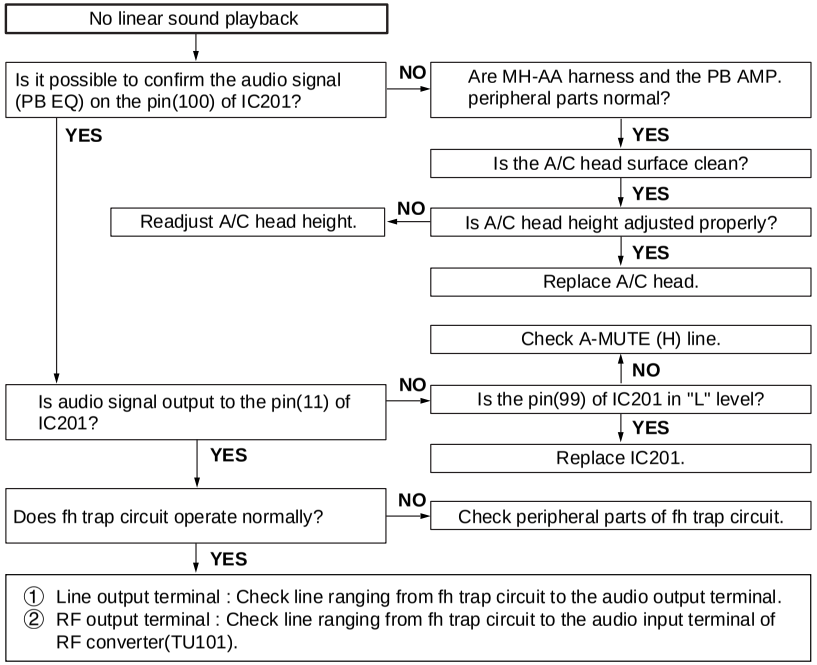
FLOW CHART NO.20 LINEAR SOUND MODE TROUBLESHOOTING(1) (Except VC-A10)


No E-E sound heard. (by pass)
Is audio signal input into the pin(8) of IC201?
NO
Check the line between external audio input terminal (J201) and pin(8) of IC201.
YES
Is audio signal outputted to the pin(11) of IC201?
NO
Is supply voltage of 5V(A-Vcc) fed to the pin(96) of IC201?
YES
NO
Replace IC201.
Check PC 5V line.
YES
Is "L" level applied at pin(99) of IC201?
YES
Is there Y/C serial data and Y/C signal clock applied to the pins(63) and(62) of IC201?
NO
NO
Check A-MUTE (H) line.
Check the line between pins(63) and (62) of IC201 and all the way up to pins(64) and (65) of IC701.
YES
Does fh trap circuit operate normally?
NO
Check peripheral parts of fh trap circuit.
YES
① Line output terminal : Check line ranging from fh trap circuit to the audio output terminal.
② RF output terminal : Check line ranging from fh trap circuit to the audio input terminal of RF converter(TU101).

FLOW CHART NO.21 LINEAR SOUND MODE TROUBLESHOOTING(2) (Except VC-A10)

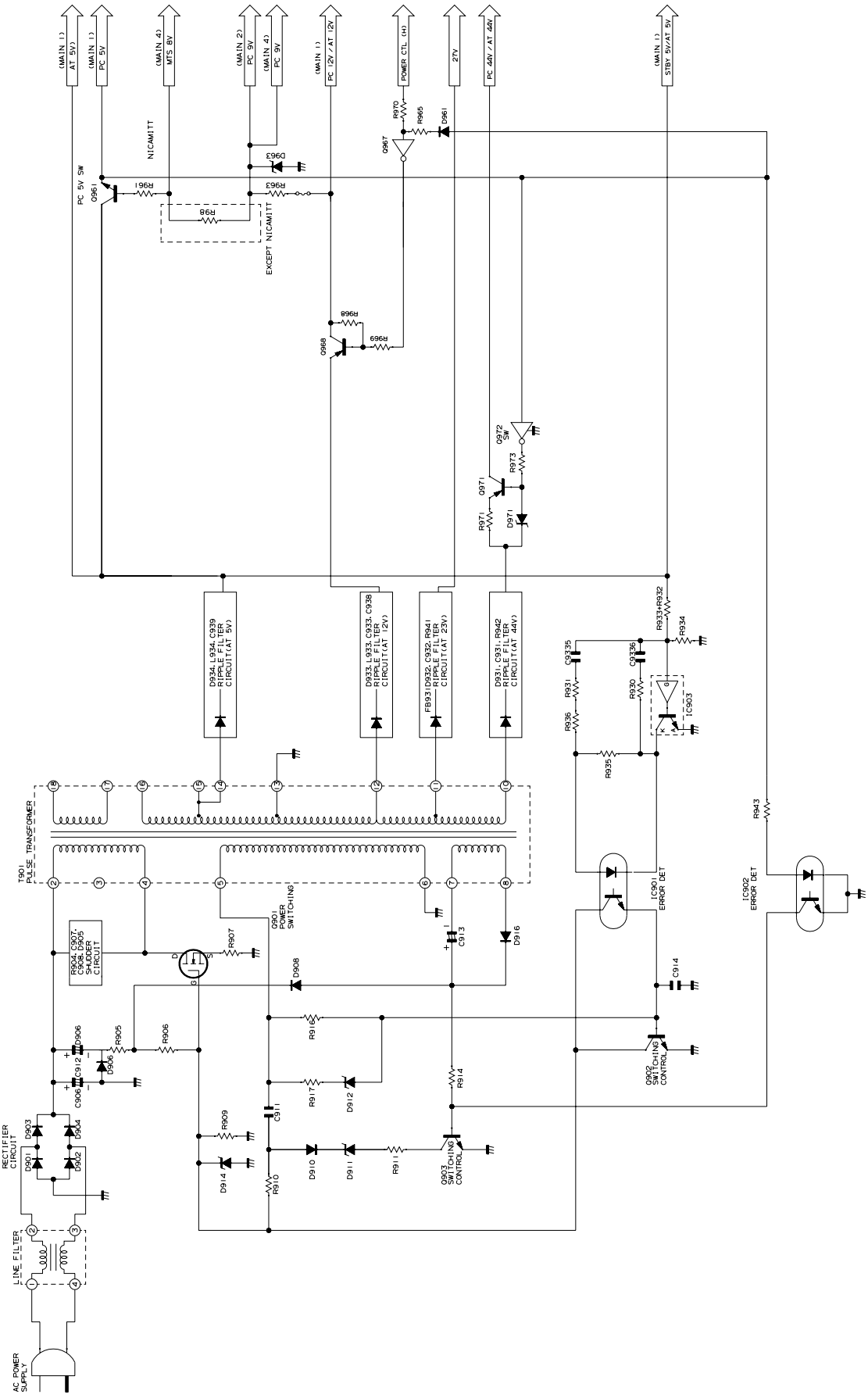

No linear sound recording (E-E mode is possible).
Is "L" level applied at pin(99) of IC201?
NO
Check A-MUTE (H) line.
YES
Is audio signal output to the pin(4) of IC201?
NO
Is the operation of IC201 normal?
YES
YES
Replace IC201.
Does the bias oscillation circuit operate normally?
NO
Is the supply voltage of 12V fed to pin(2) of T601?
YES
YES
NO
Check M 12V line.
Is audio signal on which bias signal is superposed output to pin(6) of T601?
YES
Check the bias oscillation circuit. (T601, Q602~3 and their peripheral parts.)
YES
Check the MH-AA harness and A/C head.
YES
Check BIAS CTL (H) line.

FLOW CHART NO.22 LINEAR SOUND MODE TROUBLESHOOTING(3)

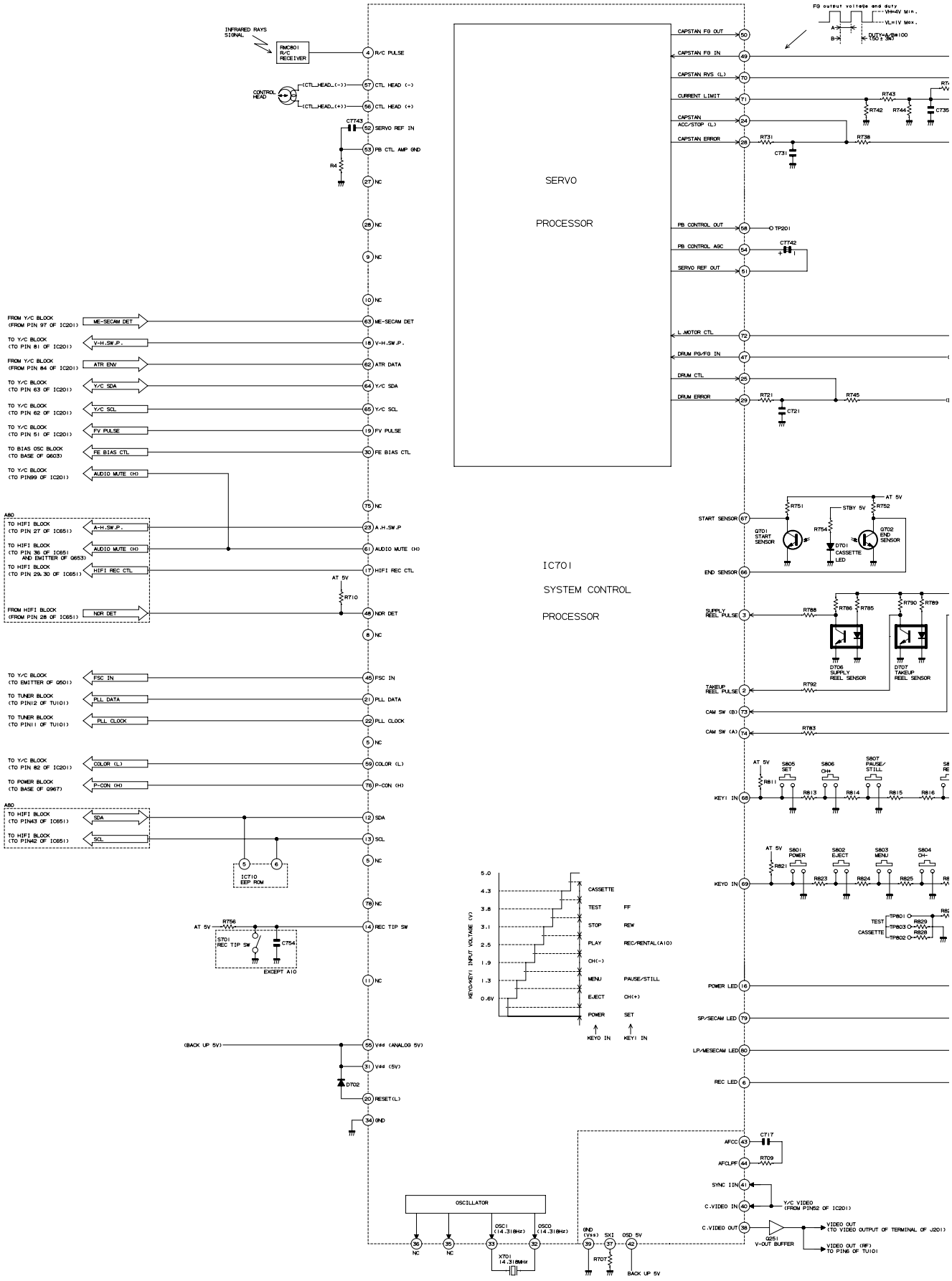

No linear sound playback
Is it possible to confirm the audio signal (PB EQ) on the pin(100) of IC201?
NO
Are MH-AA harness and the PB AMP. peripheral parts normal?
YES
YES
Is the A/C head surface clean?
YES
Readjust A/C head height.
NO
Is A/C head height adjusted properly?
YES
Replace A/C head.
Check A-MUTE (H) line.
NO
Is audio signal output to the pin(11) of IC201?
NO
Is the pin(99) of IC201 in "L" level?
YES
YES
Replace IC201.
Does fh trap circuit operate normally?
NO
Check peripheral parts of fh trap circuit.
YES
① Line output terminal : Check line ranging from fh trap circuit to the audio output terminal.
② RF output terminal : Check line ranging from fh trap circuit to the audio input terminal of RF converter(TU101).

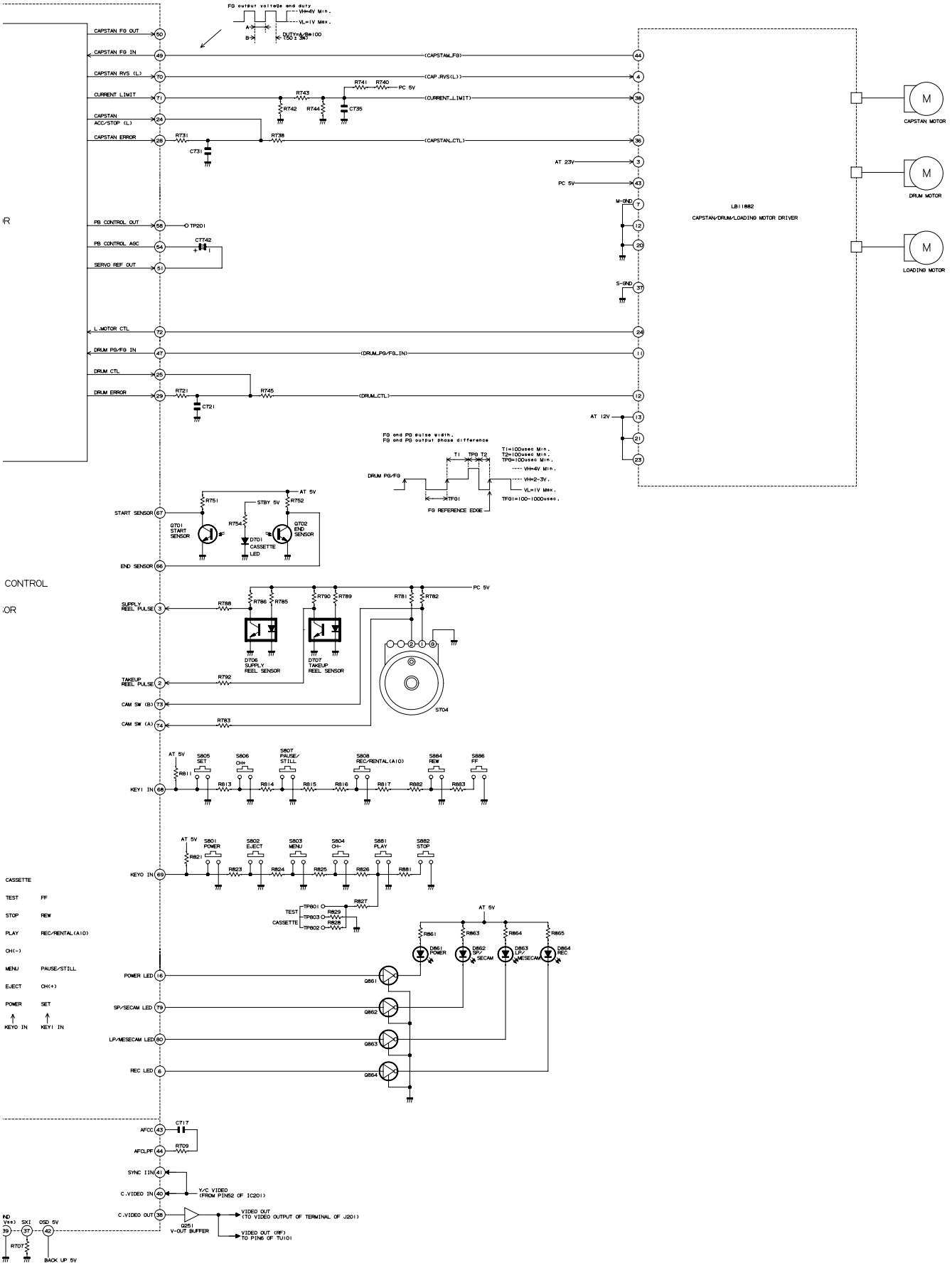
8. BLOCK DIAGRAM

POWER CIRCUIT BLOCK DIAGRAM

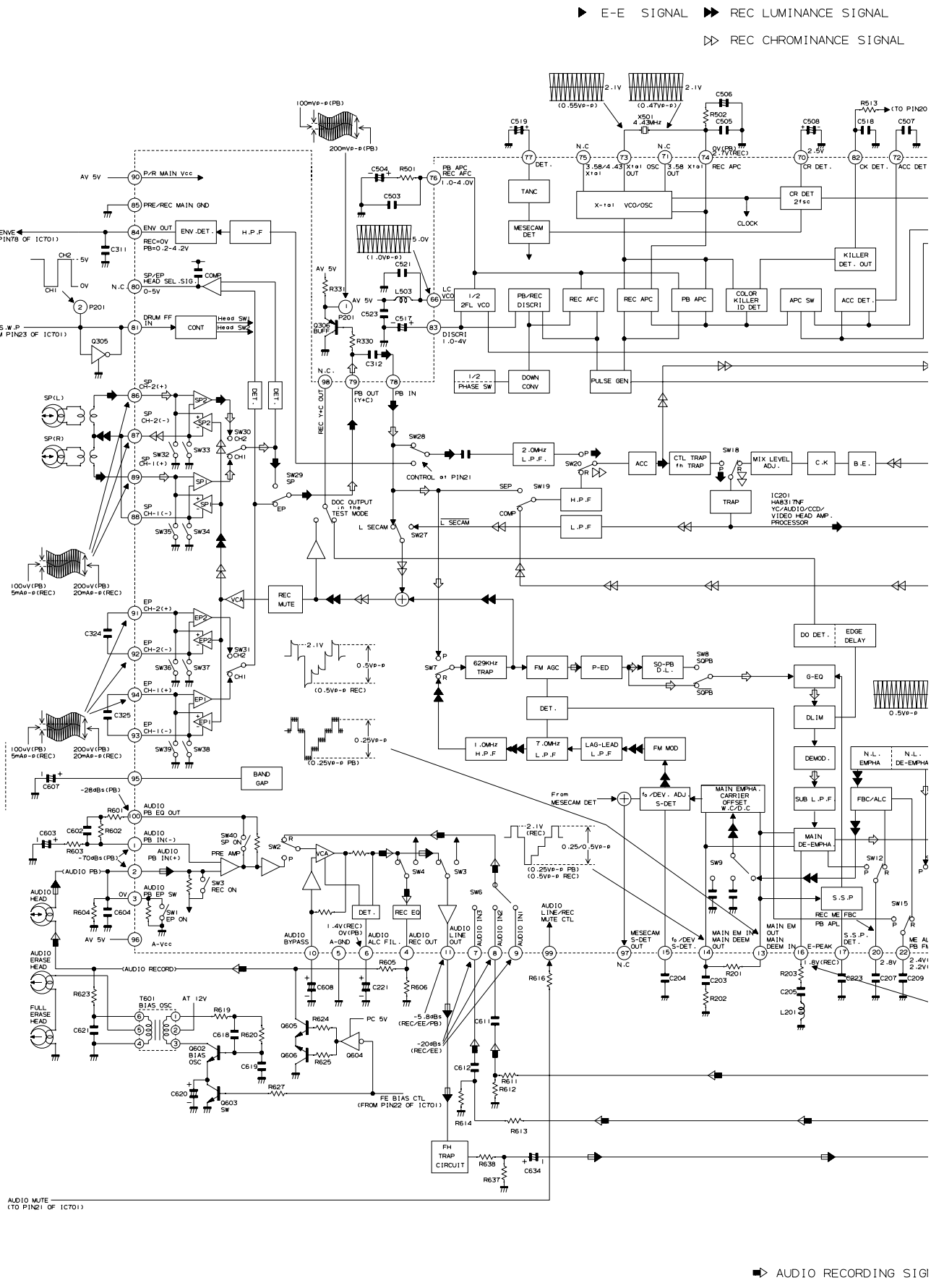


SYSTEM SERVO BLOCK DIAGRAM



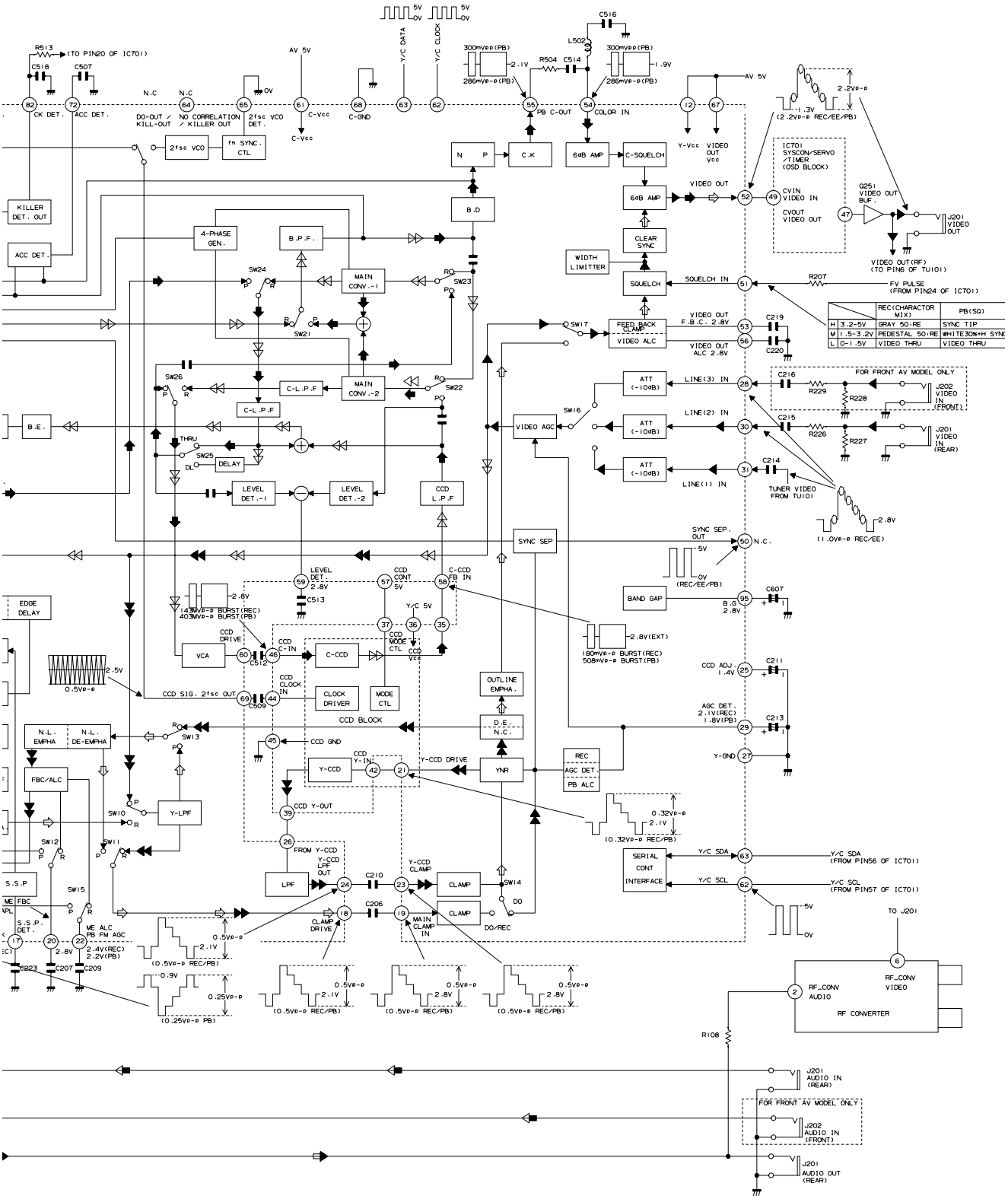

CAPSTAN FG OUT
CAPSTAN FG IN
CAPSTAN RVS (L)
CURRENT LIMIT
CAPSTAN ACC/STOP (L)
CAPSTAN ERROR
PB CONTROL OUT
PB CONTROL AGC
SERVO REF OUT
L.MOTOR CTL
DRUM PG/FG IN
DRUM CTL
DRUM ERROR
(CAPSTAN_FG)
(CAP.RVS(L))
(CURRENT_LIMIT)
(CAPSTAN_CTL)
(DRUM_PG/FG_IN)
(DRUM_CTL)
AT 23V
PC 5V
M-GND
S-GND
AT 12V
LB11882
CAPSTAN/DRUM/LOADING MOTOR DRIVER
CAPSTAN MOTOR
DRUM MOTOR
LOADING MOTOR
START SENSOR
END SENSOR
STBY 5V
AT 5V
Q701 START SENSOR
Q702 END SENSOR
D701 CASSETTE LED
SUPPLY REEL PULSE
TAKEUP REEL PULSE
CAM SW (B)
CAM SW (A)
D706 SUPPLY REEL SENSOR
D707 TAKEUP REEL SENSOR
ST04
KEY1 IN
KEY0 IN
S805 SET
S806 CH+
S807 PAUSE/STILL
S808 REC/RENTAL(AIO)
S864 REW
S866 FF
S801 POWER
S802 EJECT
S803 MENU
S804 CH-
S881 PLAY
S882 STOP
CASSETTE
TEST
STOP
PLAY
CH(-)
MENU
EJECT
POWER
FF
REW
REC/RENTAL(AIO)
PAUSE/STILL
CH(+)
SET
POWER LED
SP/SECAM LED
LP/MESECAM LED
REC LED
Q861
Q862
Q863
Q864
D861 POWER
D862 SP/SECAM
D863 LP/MESECAM
D864 REC
AFCC
AFCLPF
SYNC IIN
C.VIDEO IN
C.VIDEO OUT
Y/C VIDEO (FROM PIN52 OF IC201)
VIDEO OUT (TO VIDEO OUTPUT OF TERMINAL OF J201)
VIDEO OUT (RF) TO PIN6 OF TU101
Q251 V-OUT BUFFER
BACK UP 5V
FG output voltage and duty
FG and PG pulse width, FG and PG output phase difference
FG REFERENCE EDGE
DRUM PG/FG
CONTROL
OR

SIGNAL FLOW BLOCK DIAGRAM(VC-A10/A10S/A500/A50/A50S/A50S(B)/A60)


E-E SIGNAL
REC LUMINANCE SIGNAL
REC CHROMINANCE SIGNAL
AUDIO RECORDING SIGI
AV 5V
P/R MAIN Vcc
PRE/REC MAIN GND
ENV OUT
ENV .DET
H.P.F
ATR ENVE (TO PIN78 OF IC701)
SP/EP HEAD SEL.SIG.
COMP
DRUM FF IN
CONT
Head SW
V-H.S.W.P (FROM PIN23 OF IC701)
Q305
P201
Q308 BUFF
R330
C312
SP CH-2(+)
SP CH-2(-)
SP CH-1(+)
SP CH-1(-)
SP(L)
SP(R)
SW30
SW33
SW32
SW35
SW34
SW29 SP
EP
DOC OUTPUT in the TEST MODE
L SECAM
SW27
SW28
CONTROL at PIN21
2.0MHz L.P.F.
SW20
ACC
CTL TRAP fh TRAP
SW18
MIX LEVEL ADJ.
C.K
B.E.
TRAP
SEP
SW19
H.P.F
L.P.F
COMP
IC201 HA88137NF YC/AUDIO/CCD/ VIDEO HEAD AMP. PROCESSOR
REC Y+C OUT
PB OUT (Y+C)
PB IN
1/2 PHASE SW
DOWN CONV
PULSE GEN
PB APC REC AFC
TANC
MESECAM DET
X-tal VCO/OSC
CLOCK
CR DET 2fsc
KILLER DET. OUT
LC VCO
1/2 2FL VCO
PB/REC DISCRI
REC AFC
REC APC
PB APC
COLOR KILLER ID DET
APC SW
ACC DET.
DISCRI
CR DET.
CK DET.
ACC DET
REC MUTE
VCA
BAND GAP
AUDIO PB EQ OUT
AUDIO PB IN(-)
AUDIO PB IN(+)
PRE AMP
SW40 SP ON
SW3 REC ON
AUDIO PB EP SW
SW1 EP ON
AUDIO HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
AUDIO RECORD
T601 BIAS OSC
AT 12V
Q602 BIAS OSC
Q603 SW
Q604
PC 5V
FE BIAS CTL (FROM PIN22 OF IC701)
AUDIO BYPASS
AUDIO A-GND
AUDIO ALC FIL.
AUDIO REC OUT
AUDIO LINE OUT
AUDIO IN3
AUDIO IN2
AUDIO IN1
AUDIO LINE/REC MUTE CTL
DET.
REC EQ
FH TRAP CIRCUIT
AUDIO MUTE (TO PIN21 OF IC701)
629KHz TRAP
FM AGC
P-ED
SO-PB D.L.
SOPB
DET.
1.0MHz H.P.F
7.0MHz L.P.F
LAG-LEAD L.P.F
FM MOD
fo/DEV. ADJ S-DET
From MESECAM DET
MESECAM S-DET OUT
fo/DEV S-DET.
MAIN EMPHA. CARRIER OFFSET W.C/D.C
MAIN EM IN
MAIN DEEM OUT
MAIN EM OUT
MAIN DEEM IN
DO DET.
EDGE DELAY
G-EQ
DLIM
DEMOD.
SUB L.P.F
FBC/ALC
MAIN DE-EMPHA
S.S.P
S.S.P. DET.
REC MEFBC
PB APL
E-PEAK
N.L. EMPHA
N.L. DE-EMPHA
SW8
SW9
SW12
SW15
SW6
SW7
SW4
SW3
SW2
SW1
SW31
SW36
SW37
SW38
SW39
SW30
SW33
SW32
SW35
SW34
SW29
SW28
SW20
SW19
SW18
SW27
SW40
SW31
SW36
SW37
SW38
SW39
C603
C602
C604
C607
C608
C221
C605
C606
C609
C610
C611
C612
C613
C614
C615
C616
C617
C618
C619
C620
C621
C623
C634
C324
C325
C501
C502
C503
C504
C505
C506
C507
C508
C509
C510
C511
C512
C513
C514
C515
C516
C517
C518
C519
C520
C521
C522
C523
C524
C525
C526
C527
C528
C529
C530
C531
C532
C533
C534
C535
C536
C537
C538
C539
C540

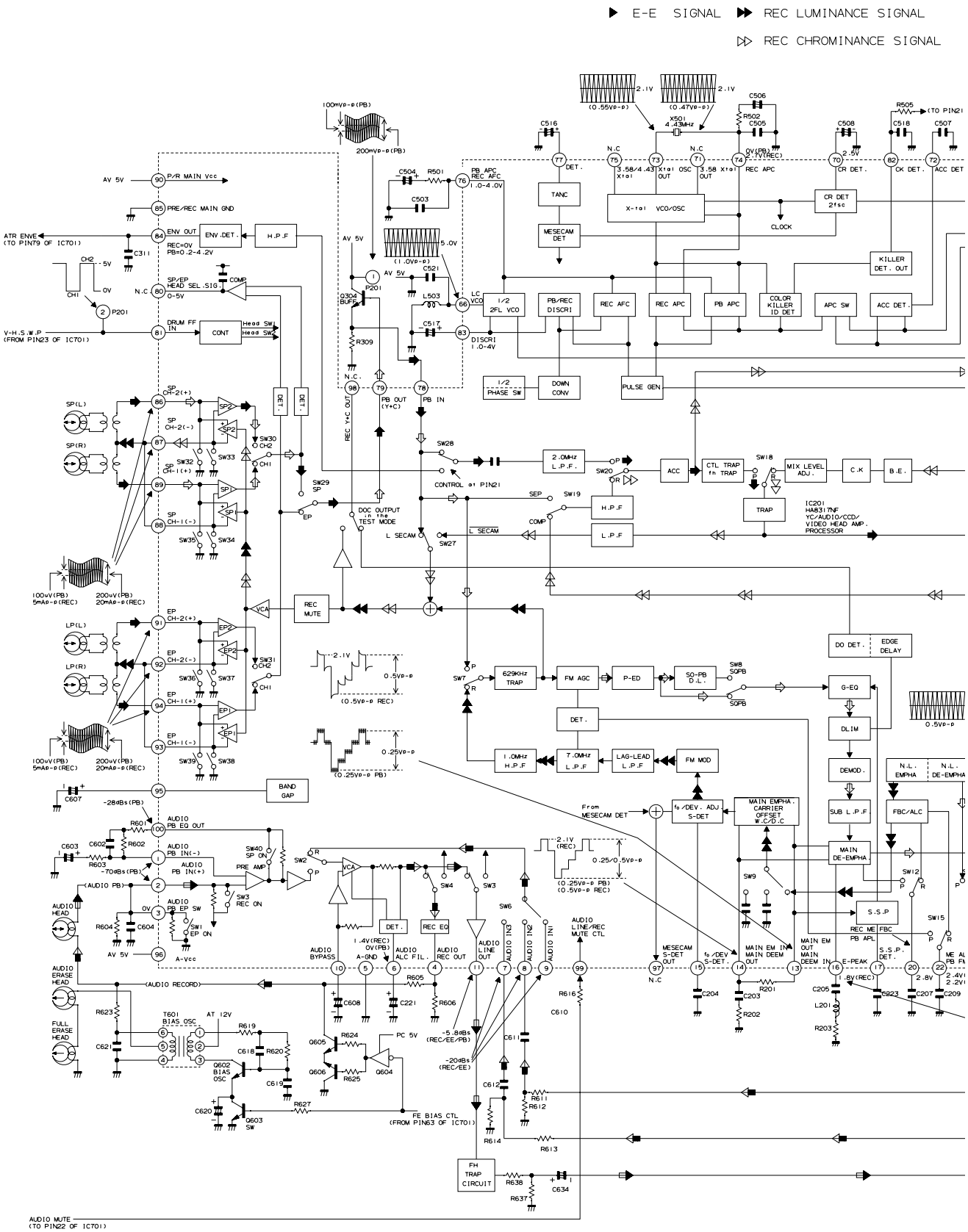
E SIGNAL ⇨ PB LUMINANCE SIGNAL

NCE SIGNAL ➡ PB CHROMINANCE SIGNAL



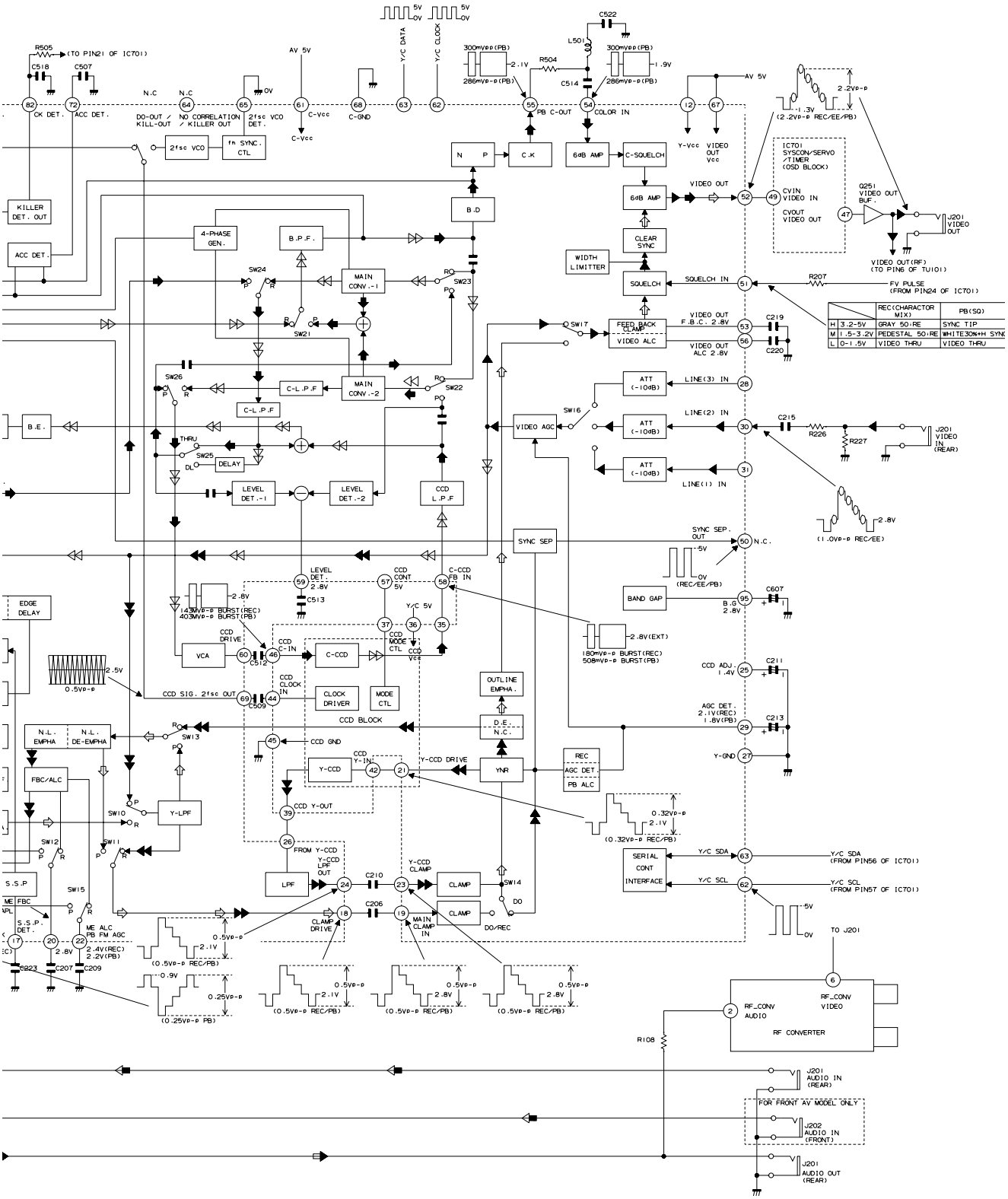
RECORDING SIGNAL ➡ AUDIO PLAYBACK SIGNAL

SIGNAL FLOW BLOCK DIAGRAM(VC-A75)



E SIGNAL ⇨ PB LUMINANCE SIGNAL

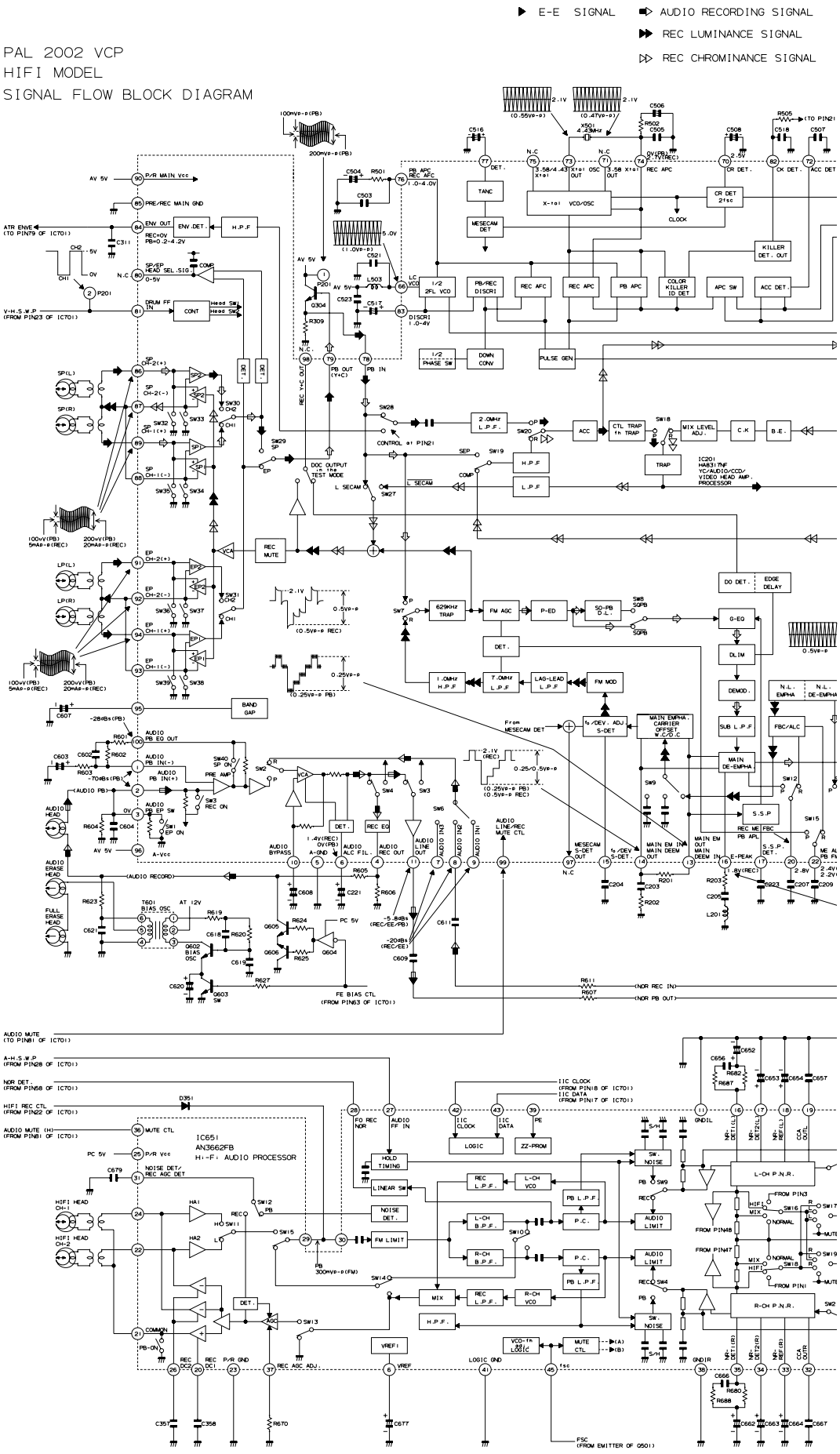
NCE SIGNAL ➡ PB CHROMINANCE SIGNAL



	REC(CHARACTOR MIX)	PB(SQ)
H	3.2-5V	GRAY 50:RE	SYNC TIP
M	1.5-3.2V	PEDESTAL 50:RE	WHITE30%+H SYNC
L	0-1.5V	VIDEO THRU	VIDEO THRU

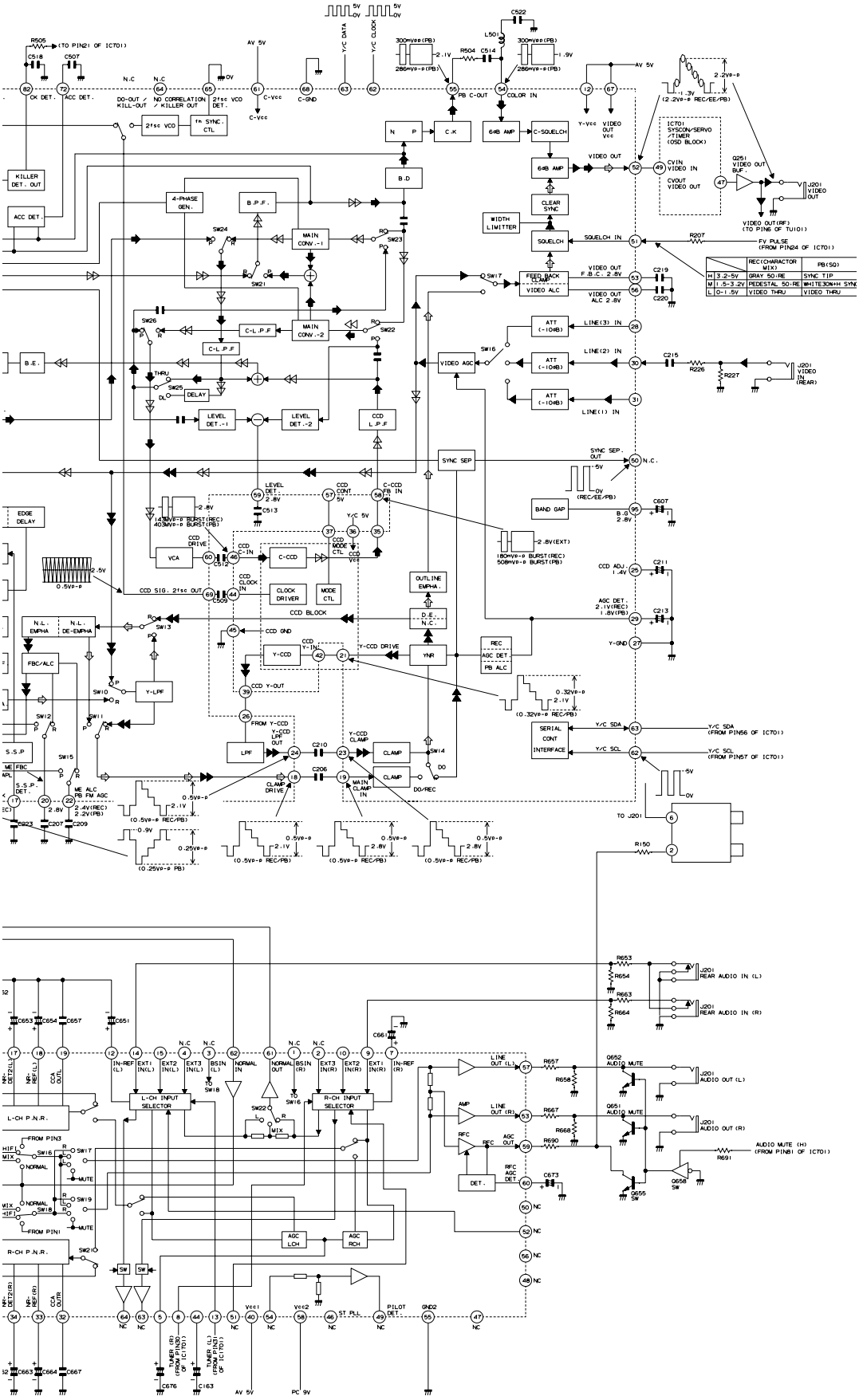
ECORDING SIGNAL ⇨ AUDIO PLAYBACK SIGNAL

SIGNAL FLOW BLOCK DIAGRAM(VC-A80S)



NG SIGNAL
E SIGNAL
NCE SIGNAL

AUDIO PLAYBACK SIGNAL
PB LUMINANCE SIGNAL
PB CHROMINANCE SIGNAL



SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:
BE SURE TO USE GENUINE PARTS FOR SECURING THE SAFETY AND RELIABILITY OF THE SET.
PARTS MARKED WITH " ⚠ " AND PARTS SHADED (IN BLACK) ARE ESPECIALLY IMPORTANT FOR MAINTAINING THE SAFETY AND PROTECTING ABILITY OF THE SET.
BE SURE TO REPLACE THEM WITH PARTS OF SPECIFIED PART NUMBER.

SAFETY NOTES:
1. *DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACING PARTS.*
2. *SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.*

NOTES:
1. *The unit of resistance "ohm" is omitted (k=1000 ohm, M=1 Meg ohm).*
2. *All resistors are 1/8 watt, unless otherwise noted.*
3. *The unit of capacitance "F" is omitted (μ=μF, p=μμF).*
4. *The values in parentheses are the ones in the PB mode; the values without parentheses are the ones in the REC mode.*

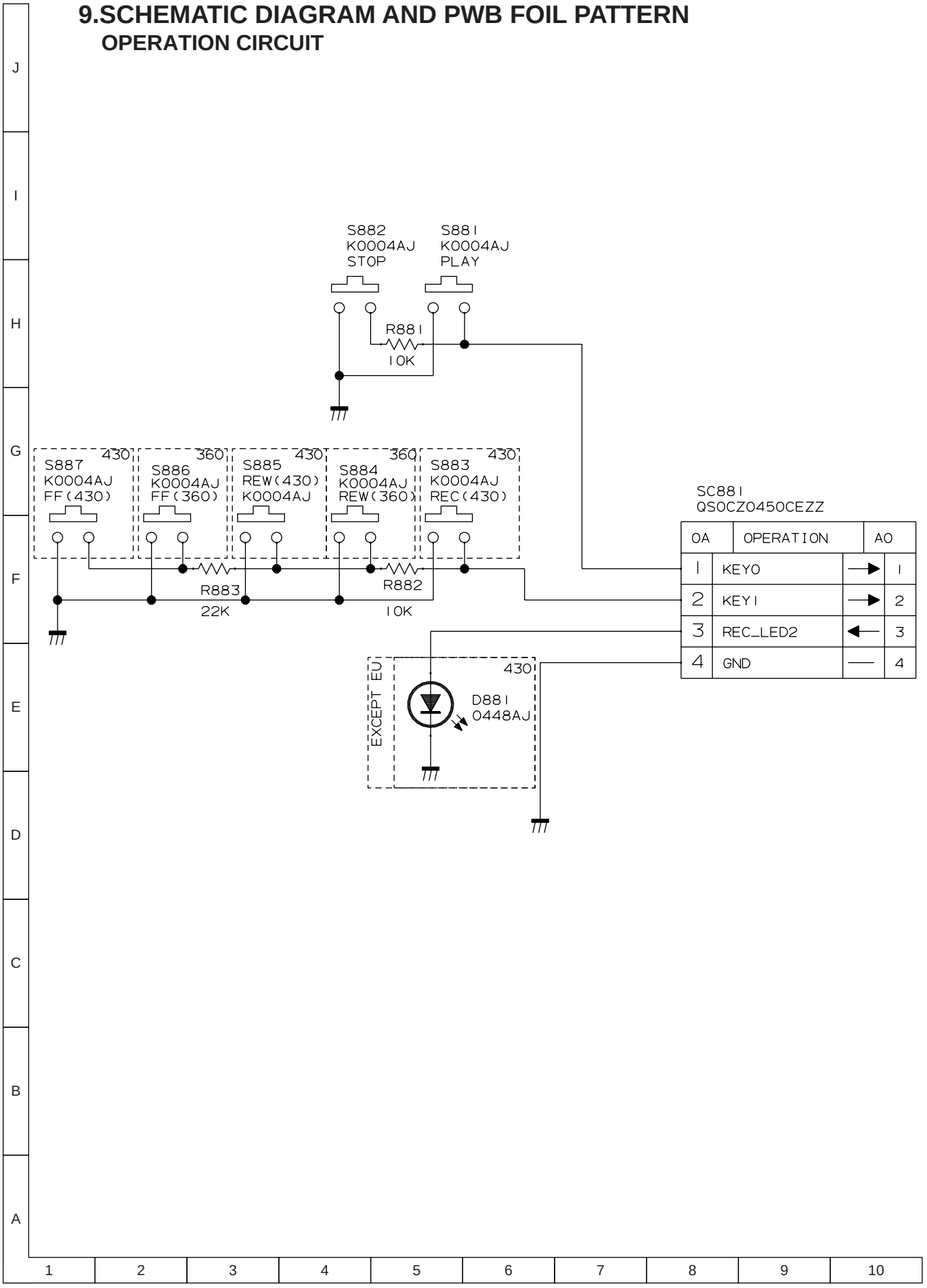
VOLTAGE MEASUREMENT CONDITIONS:
1. *DC voltages are measured between points indicated and chassis ground by VTVM, with AC230V~240V/50Hz supplied to unit and all controls are set to normal viewing picture unless otherwise noted.*
2. *Voltages are measured with 10000μV B & W or colour noted.*

WAVEFORM MEASUREMENT CONDITIONS:
10000μV 87.5 percent modulated colour bar signal is fed into tuner.

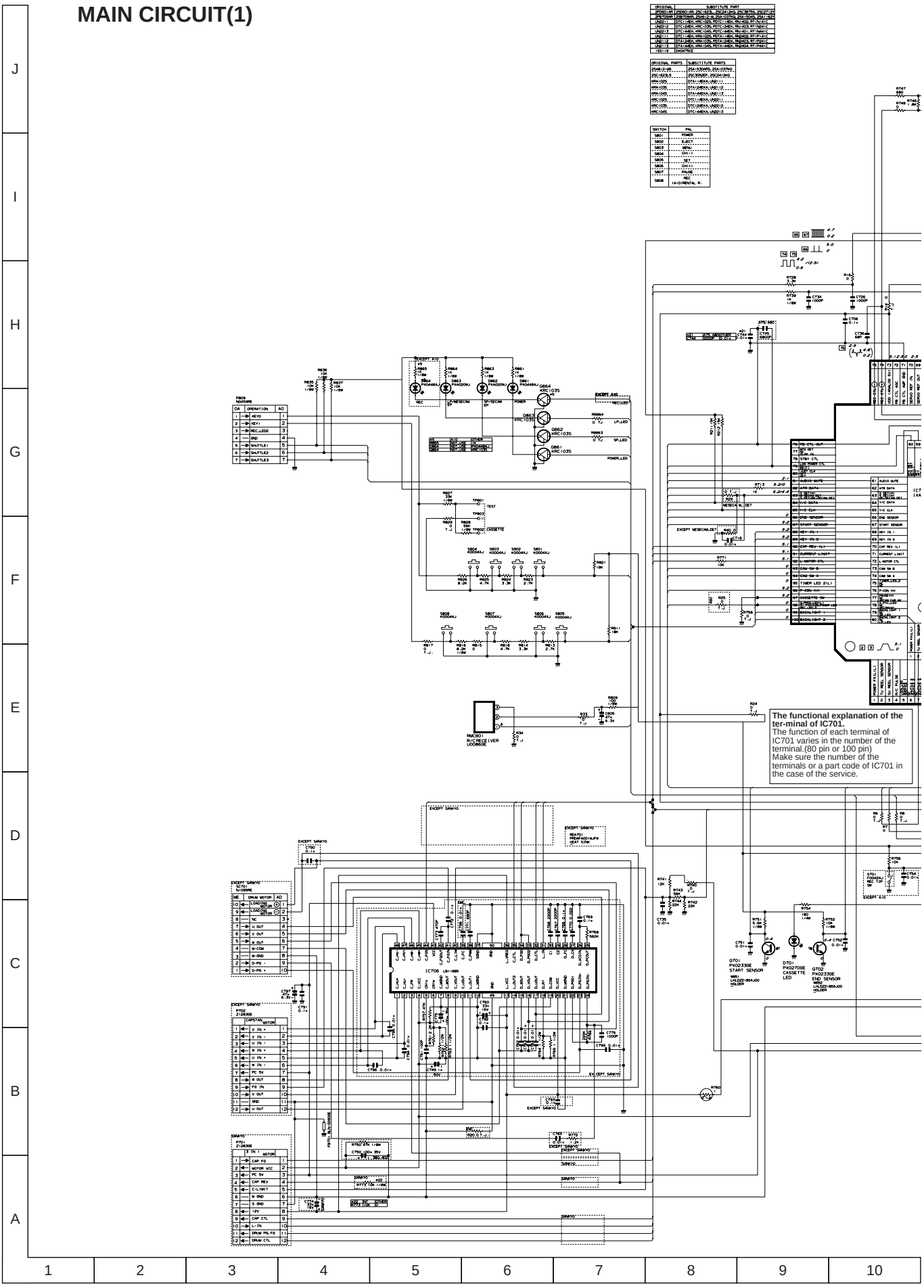
CAUTION:
This circuit diagram is original one. Therefore there may be a slight difference from yours.

9.SCHEMATIC DIAGRAM AND PWB FOIL PATTERN

OPERATION CIRCUIT

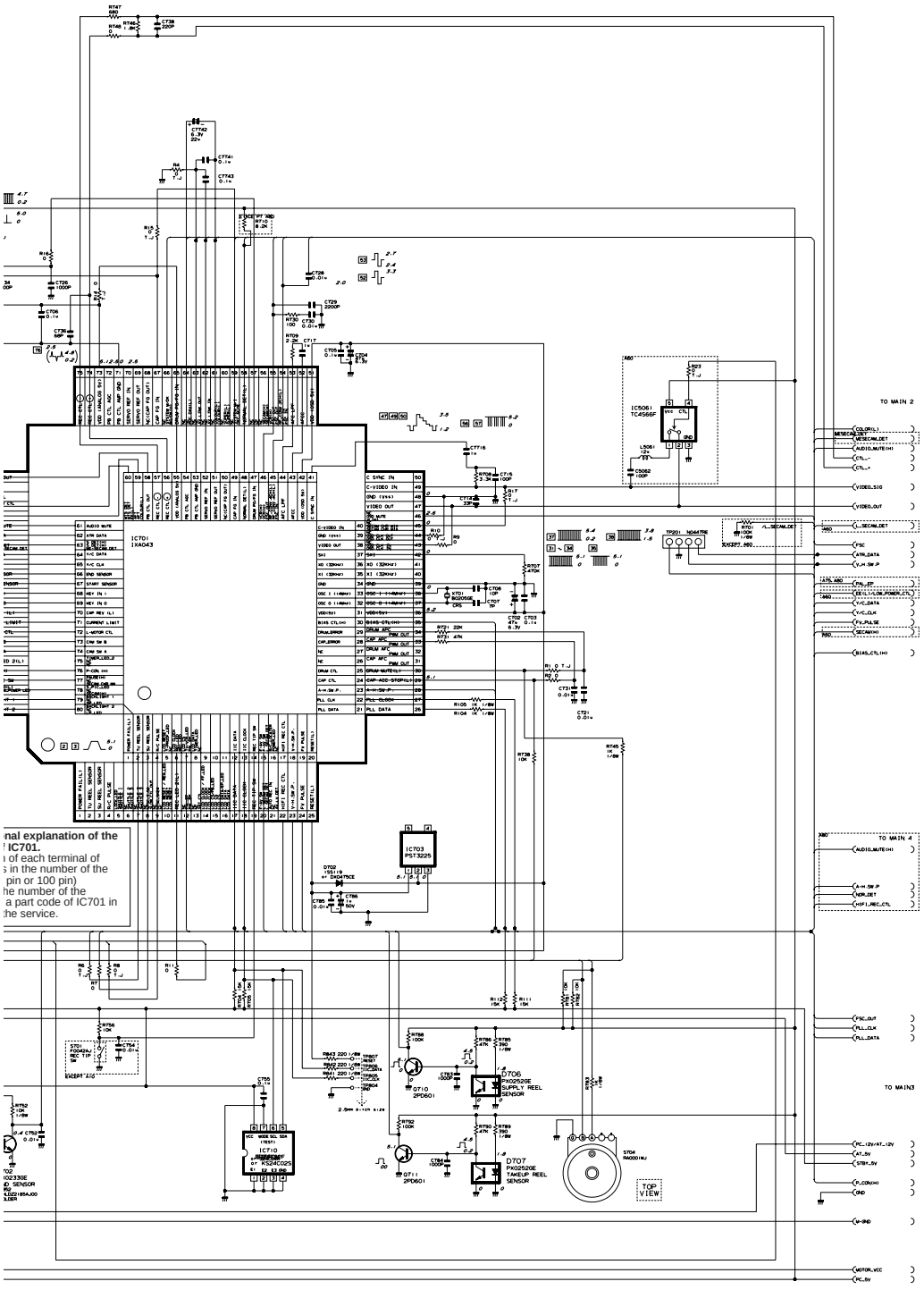


MAIN CIRCUIT(1)



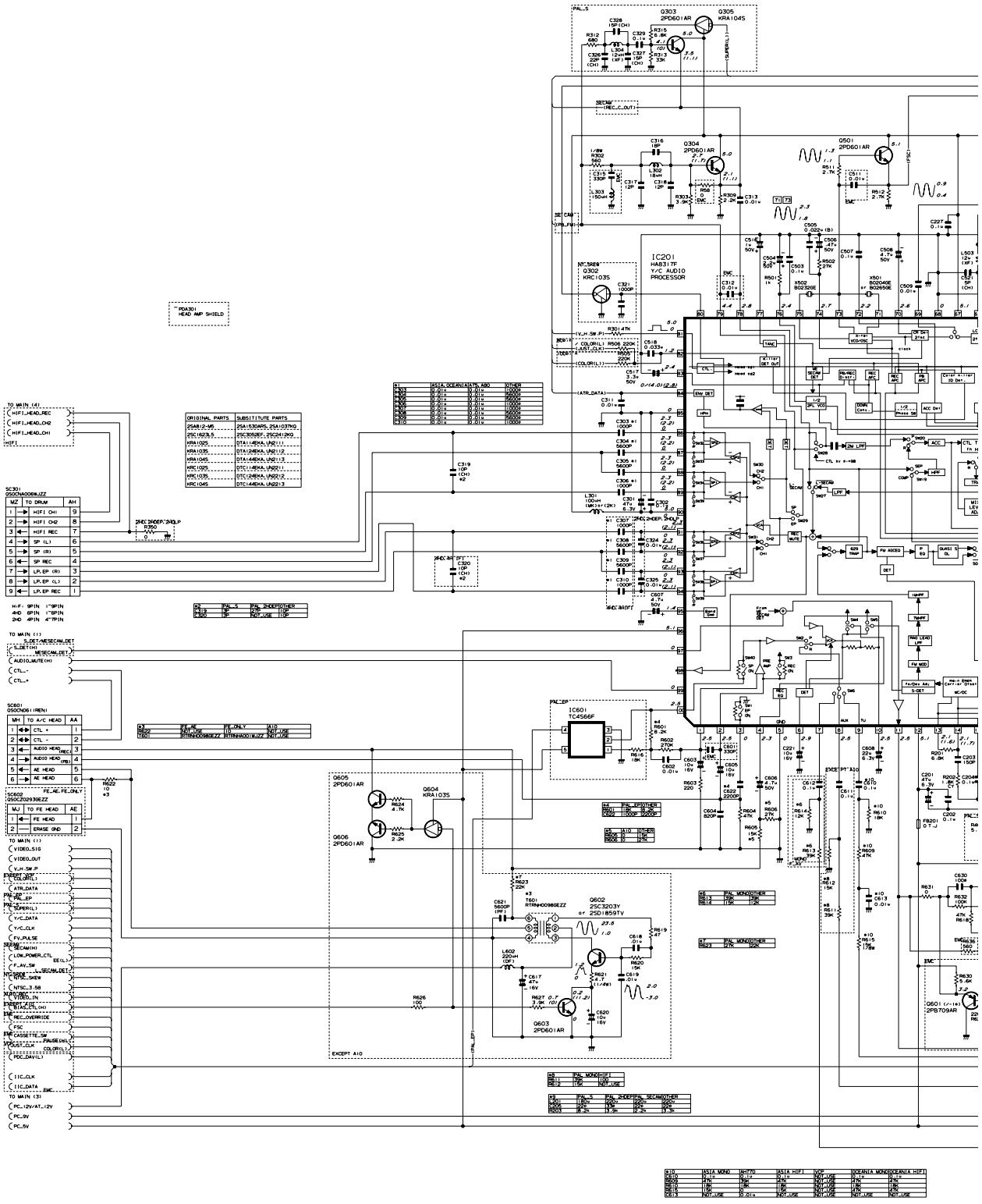
The functional explanation of the ter-minal of IC701.
The function of each terminal of IC701 varies in the number of the terminal.(80 pin or 100 pin)
Make sure the number of the terminals or a part code of IC701 in the case of the service.

*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ... Without Parentheses

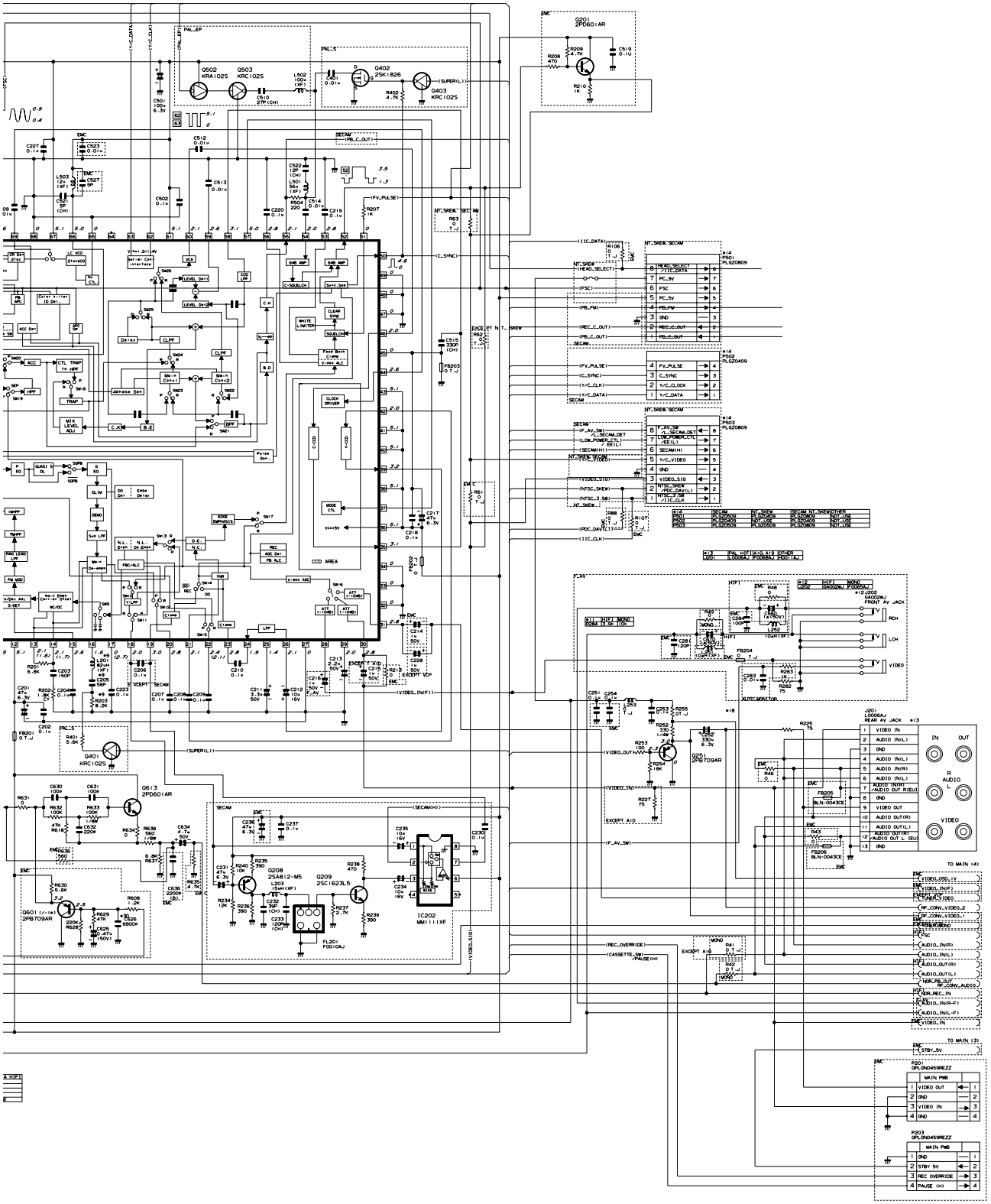


10	11	12	13	14	15	16	17	18	19

MAIN CIRCUIT(2)

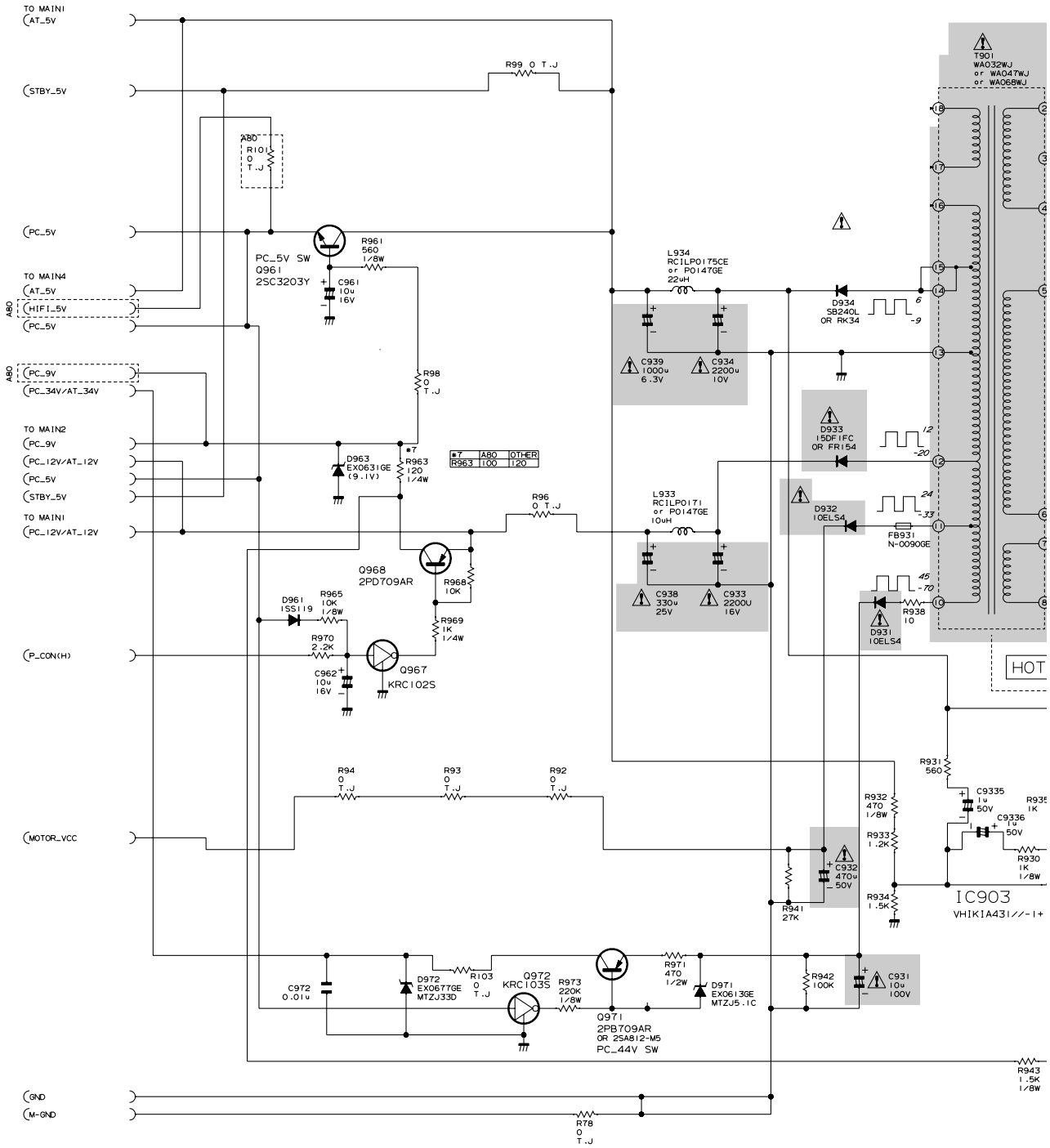


*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ... Without Parentheses



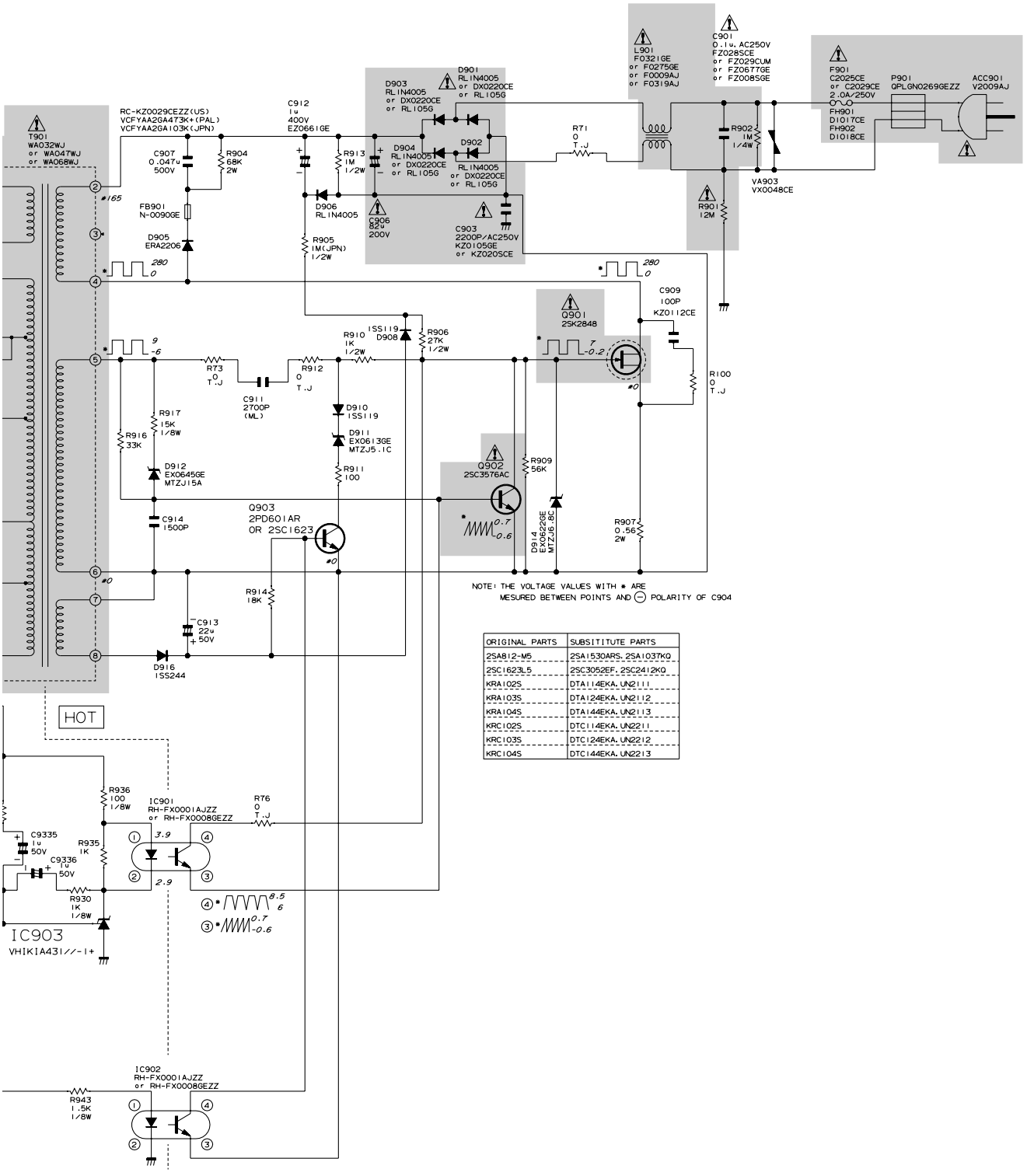
10	11	12	13	14	15	16	17	18	19

MAIN CIRCUIT(3)



	1	2	3	4	5	6	7	8	9	10
J										
I										
H										
G										
F										
E										
D										
C										
B										
A										

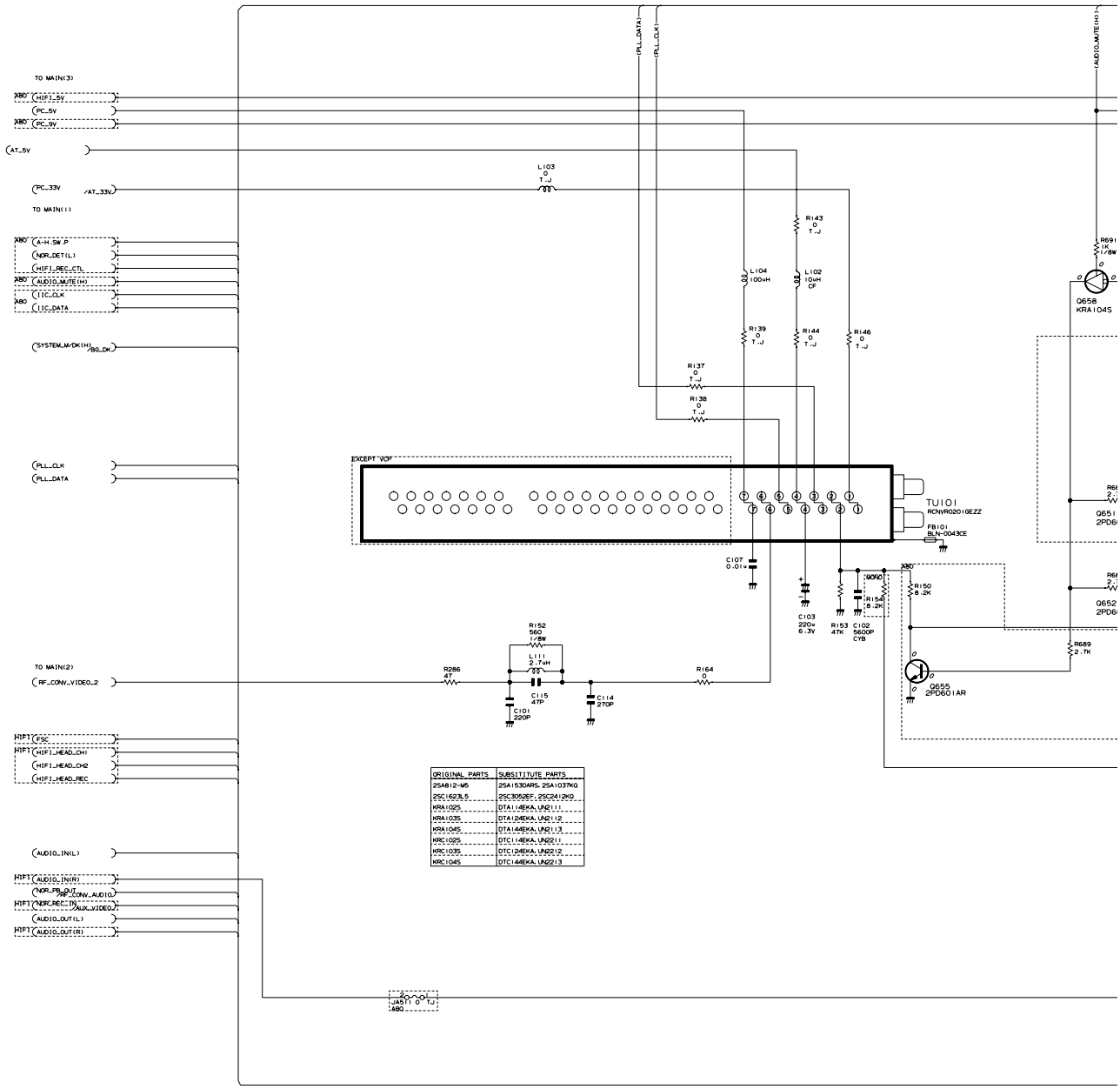
*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ... Without Parentheses



ORIGINAL PARTS	SUBSITITUTE PARTS
2SA812-M5	2SA1530ARS, 2SA1037K0
2SC1623L5	2SC3052EF, 2SC2412K0
KRA102S	DTA114EKA, UN2111
KRA103S	DTA124EKA, UN2112
KRA104S	DTA144EKA, UN2113
KRC102S	DTC114EKA, UN2211
KRC103S	DTC124EKA, UN2212
KRC104S	DTC144EKA, UN2213

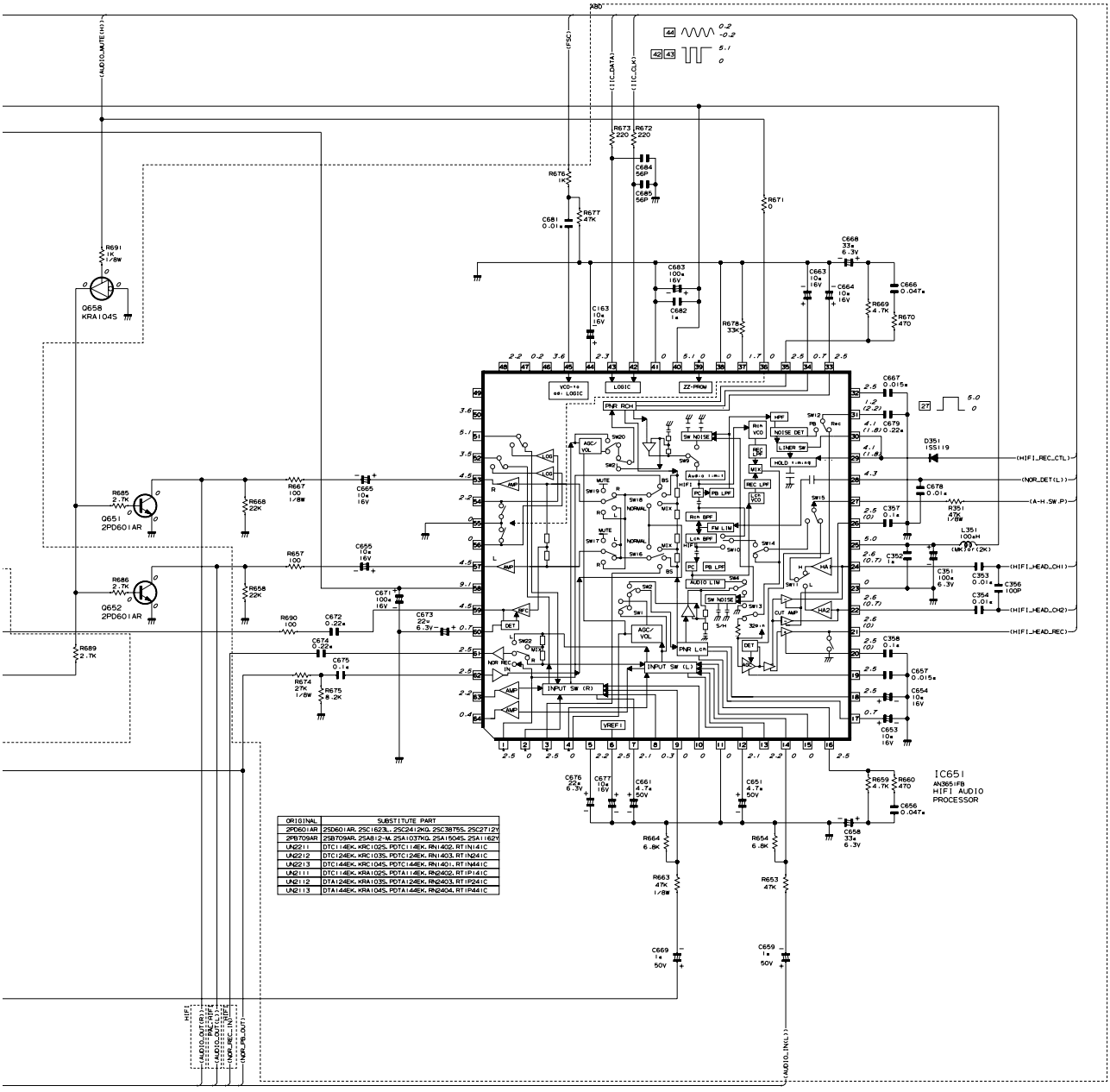
10	11	12	13	14	15	16	17	18	19

MAIN CIRCUIT(4)



ORIGINAL PARTS	SUBSTITUTE PARTS
2SA812-M5	2SA1530ARS, 2SA1037KQ
2SC1623-L5	2SC3052EF, 2SC2412KQ
KRA102S	DTA114EKA, UN2111
KRA103S	DTA124EKA, UN2112
KRA104S	DTA144EKA, UN2113
KRC102S	DTC114EKA, UN2211
KRC103S	DTC124EKA, UN2212
KRC104S	DTC144EKA, UN2213

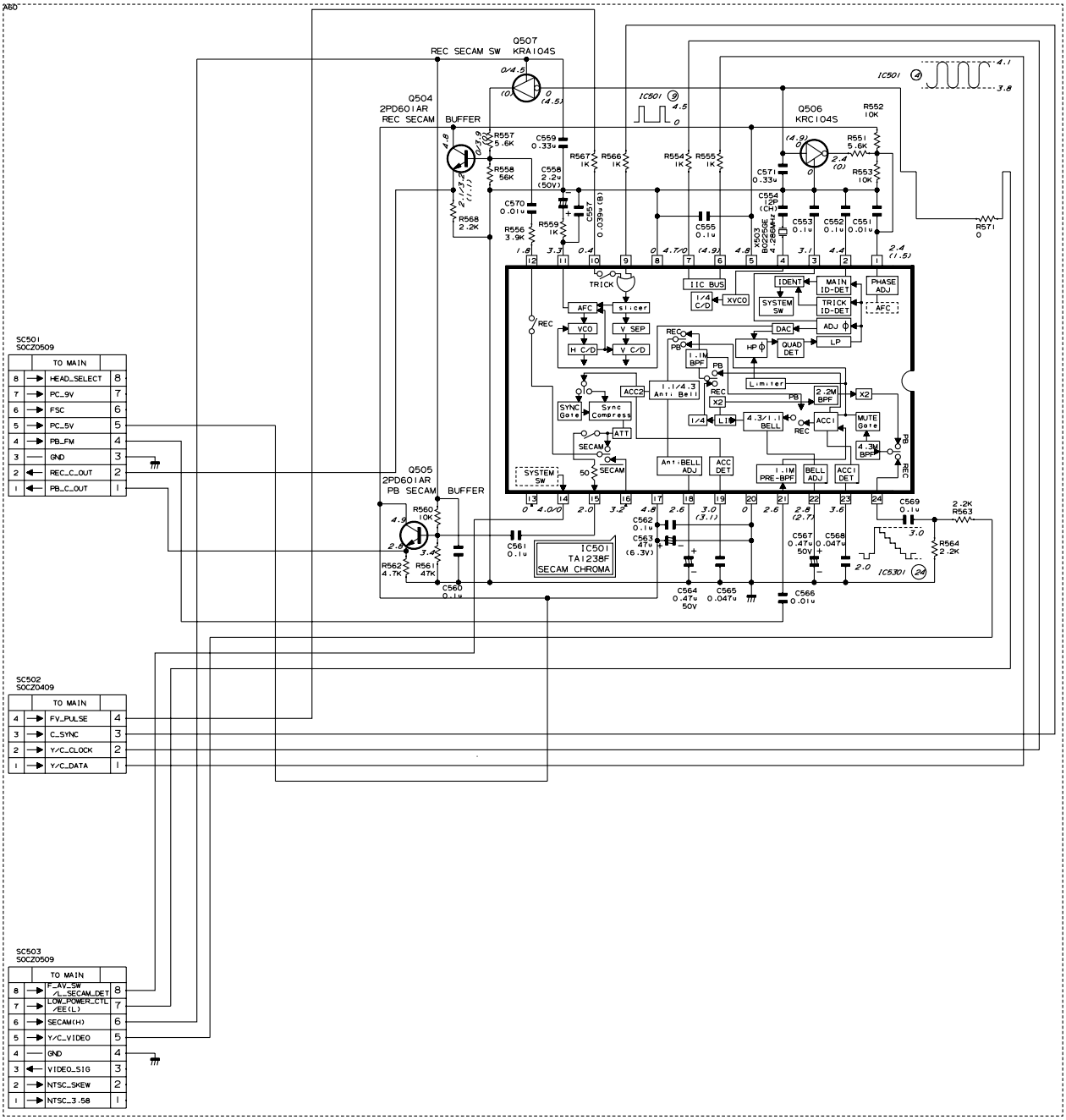
*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ... Without Parentheses



ORIGINAL	SUBSTITUTE PART
2PD601AR	2SD601AR, 2SC1623L, 2SC2412KQ, 2SC3875S, 2SC2712Y
2PB709AR	2SB709AR, 2SAB12-M, 2SA1037KQ, 2SA1504S, 2SA1162Y
UN2211	DTC114EK, KRC102S, PDTC114E, RN1402, RT1N141C
UN2212	DTC124EK, KRC103S, PDTC124E, RN1403, RT1N241C
UN2213	DTC144EK, KRC104S, PDTC144E, RN1401, RT1N441C
UN2111	DTC114EK, KRA102S, PDTA114E, RN2402, RT1P141C
UN2112	DTA124EK, KRA103S, PDTA124E, RN2403, RT1P241C
UN2113	DTA144EK, KRA104S, PDTA144E, RN2404, RT1P441C

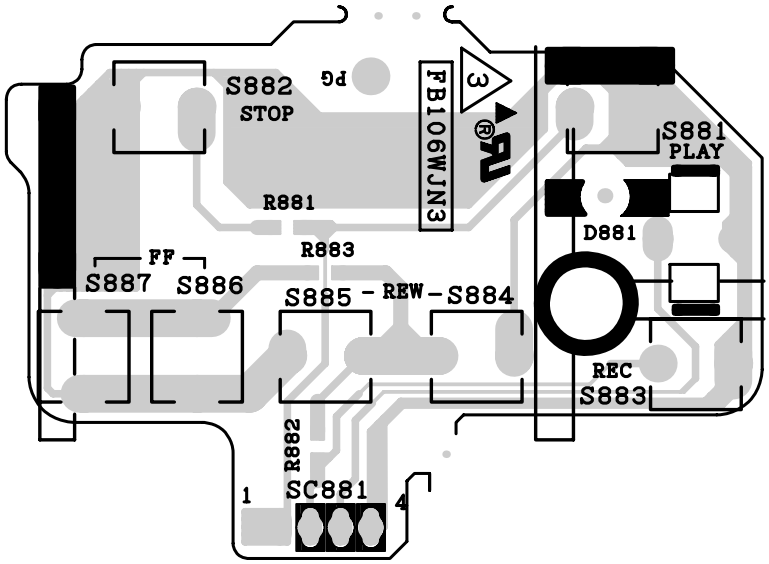
10	11	12	13	14	15	16	17	18	19

SECAM CIRCUIT (VC-A60)

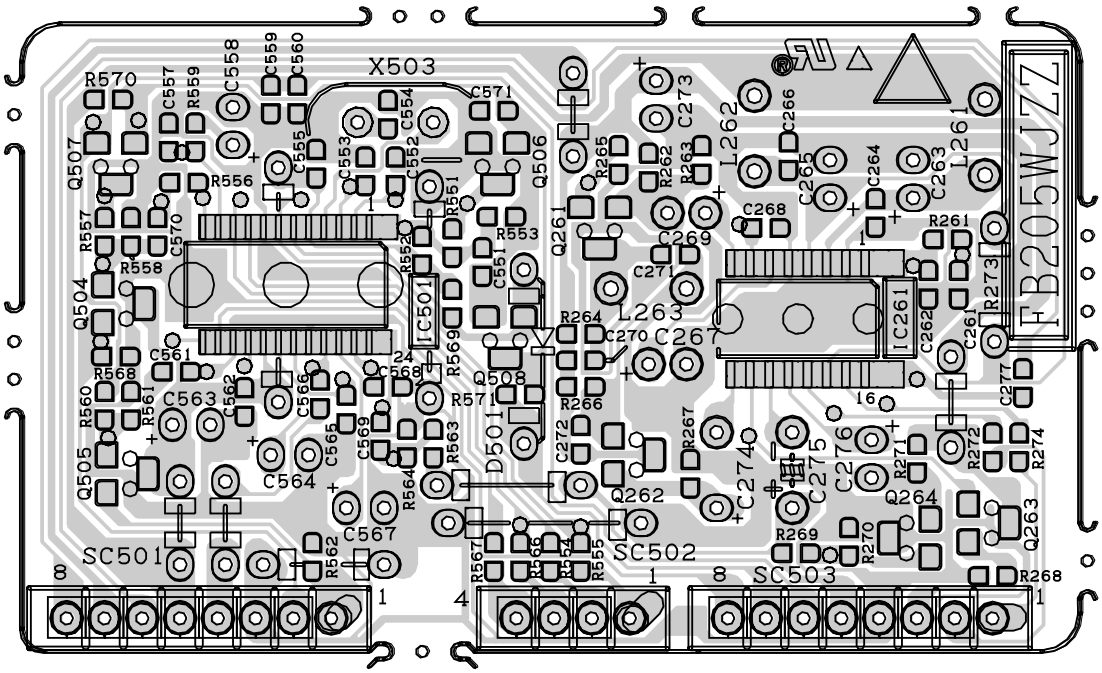


PWB FOIL PATTERN

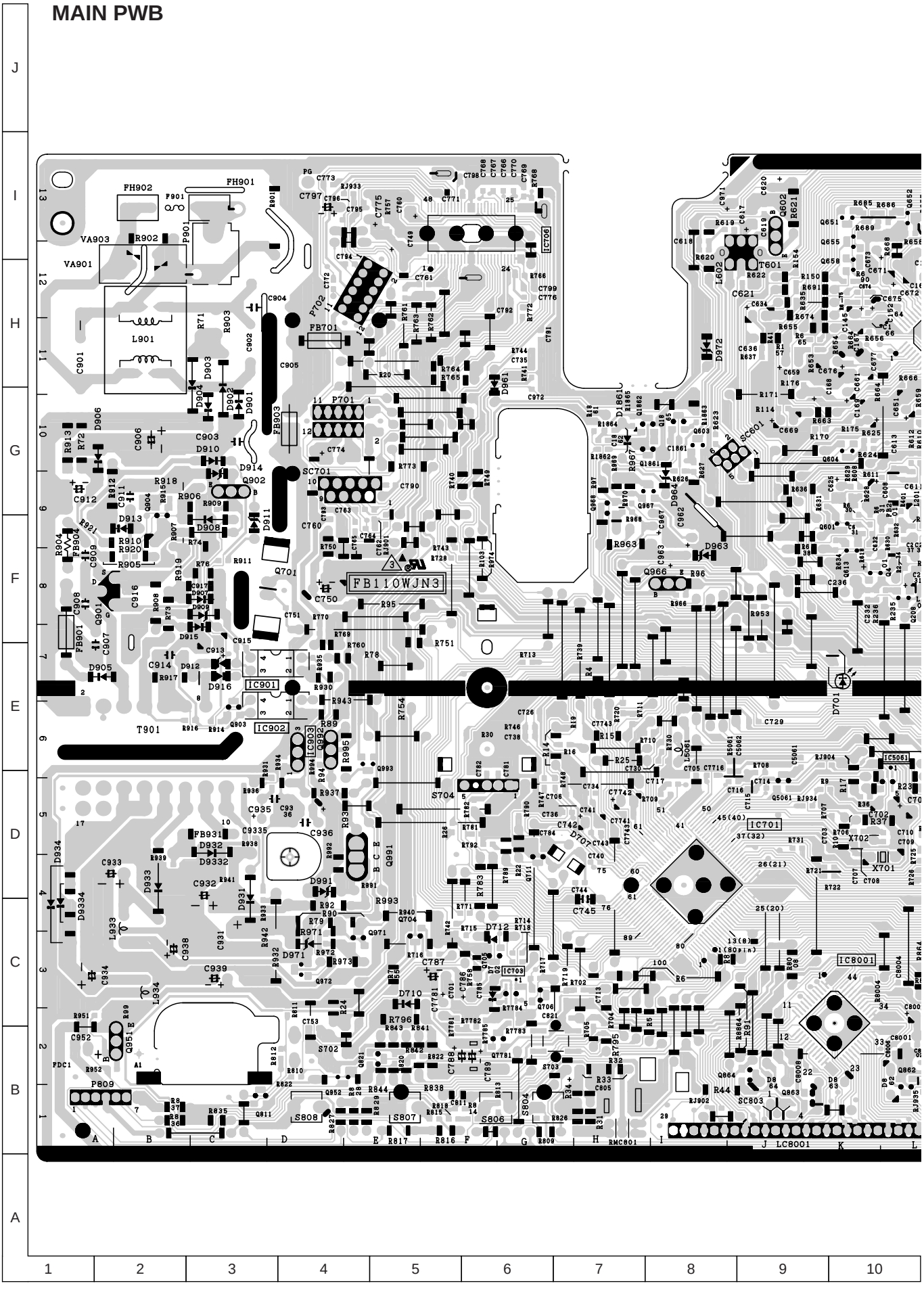
OPERATION PWB



SECAM PWB



MAIN PWB


FB110WJN3
IC901
IC902
IC903
IC5061
IC8001
IC701
IC703
IC706
T901
T601
L602
SC701
SC601
SC803
P701
P702
P809
LC8001
RMC801
S702
S703
S704
S806
S807
S808
X701
X702

10	11	12	13	14	15	16	17	18	19

10. REPLACEMENT PARTS LIST

PARTS REPLACEMENT

Parts marked with " ⚠ " are important for maintaining the safety of the set.Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER **2. REF. NO.**
3. PART NO. **4. DESCRIPTION**
5. PRICE CODE

HOW TO IDENTIFY CHIP TRANSISTORS AND DIODES BY ITS MARKING

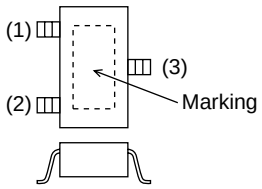


Fig. 1

(1) Base/Input
(2) Emitter/Ground
(3) Collector/Output

Package	Marking	Parts No.
Fig. 1	FQ	VS2SA1037KQ-1
Fig. 1	BQ	VS2SC2412KQ-1

MARK ★: SPARE PARTS-DELIVERY SECTION

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES

(NOT REPLACEMENT ITEM)

DUNTKB110TEV1	-	Main Unit (VC-A10/A10S)	—
DUNTKB110TEV5	-	Main Unit (VC-A50/A50S)	—
DUNTKB110TEV8	-	Main Unit (VC-A500)	—
DUNTKB110TEWA	-	Main Unit (VC-A50S(B))	—
DUNTKB110TEV9	-	Main Unit (VC-A60)	—
DUNTKB110TEVA	-	Main Unit (VC-A75S)	—
DUNTKB110TEVB	-	Main Unit (VC-A80S)	—
DUNTKB106TEV5	-	Operation Unit	—
DUNTKB205TEV1	-	SECAM Unit (VC-A60)	—

DUNTKB110TE$_{V1/V5/V8/WA/V9/VA/VB}$
MAIN Unit

TUNER AND ASSEMBLY

Ref. No.	Part No.	★	Description	Code
TU101	RCNVR0201GEZZ	V	Converter	AZ

INTEGRATED CIRCUITS

Ref. No.	Part No.	★	Description	Code
IC201	VHiHA8317F/-1	V	HA118317F	BA
IC202	VHiMM1111XF1E	V	MM1111XFBE (A60)	AE
IC601	VHiTC4S66F/-1	V	TC4S66F (A75S/A80S)	AD
IC651	VHiAN3651FB-1	V	AN3651FBP (A80S)	AU
IC701	RH-iXA043WJN2Q	V	MN101D08ESB1	AV
IC703	VHiPST3225N1EY	V	I.C.	AD
IC706	VHiLB11885/-1Y	V	I.C. (A50/A50S)	AM
IC710	VHiS524CD2S1EY	V	I.C.	AH
IC903	VHiKIA431//-1	V	KIA431	AE
IC5061	VHiTC4S66F/-1	V	TC4S66F (A60)	AD

TRANSITORS

Ref. No.	Part No.	★	Description	Code
Q208	VS2PB709AR/-1	V	2PB709AR (A60)	AB
Q209	VS2PD601AR/-1	V	2PD601AR (A60)	AB
Q251	VS2PB709AR/-1	V	2PB709AR	AB
Q303	VS2PD601AR/-1	V	2PD601AR (except A60/A80S)	AB
Q304	VS2PD601AR/-1	V	2PD601AR (A60/A80S)	AB
Q501	VS2PD601AR/-1	V	2PD601AR	AB
Q502	VSKRA102S//-1	V	KRA102S (A75S/A80S)	AA
Q503	VSKRC102S//-1	V	KRC102S (A75S/A80S)	AA
Q602	VS2SC3203Y/-1	V	2SC3203Y (except A10/A10S)	AB
Q603	VS2PD601AR/-1	V	2PD601AR (except A10/A10S)	AB
Q604	VSKRA103S//-1	V	KRA103S (except A10/A10S)	AA
Q605	VS2PD601AR/-1	V	2PD601AR (except A10/A10S)	AB
Q606	VS2PD601AR/-1	V	2PD601AR (except A10/A10S)	AB
Q613	VS2PD601AR/-1	V	2PD601AR	AB
Q651	VS2PD601AR/-1	V	2PD601AR (A80S)	AB
Q652	VS2PD601AR/-1	V	2PD601AR	AB
Q655	VS2PD601AR/-1	V	2PD601AR (A80S)	AB
Q658	VSKRA104S//-1	V	KRA104S	AA
Q710	VS2PD601AR/-1	V	2PD601AR	AB
Q711	VS2PD601AR/-1	V	2PD601AR	AB
Q861	VSKRC103S//-1	V	KRC103S	AA
Q862	VSKRC103S//-1	V	KRC103S	AA
Q863	VSKRC103S//-1	V	KRC103S	AA
Q864	VSKRC103S//-1	V	KRC103S (except A10/A10S)	AA
⚠ Q901	VS2SK2848//-1	V	2SK2848	AH
⚠ Q902	VS2SC2001LK-1	V	2SC2001LK	AA
Q903	VS2PD601AR/-1	V	2PD601AR	AB
Q961	VS2SC3203Y/-1	V	2SC3203Y	AB
Q967	VSKRC102S//-1	V	KRC102S	AA
Q968	VS2PB709AR/-1	V	2PB709AR	AB
Q971	VS2PB709AR/-1	V	2PB709AR	AB
Q972	VSKRC103S//-1	V	KRC103S	AA

DIODES

Ref. No.	Part No.	★	Description	Code
D351	VHD1SS119//-1	V	1SS119 (A80S)	AB
D701	RH-PX0270GEZZ	V	PhotoDiode	AC
D702	VHD1SS119//-1	V	1SS119	AB
D706	RH-PX0252GEZZ	V	GP1S563	AF
D707	RH-PX0252GEZZ	V	GP1S563	AF
D861	RH-PX0448AJZZ+	V	PhotoDiode	AC
D862	RH-PXA020WJZZ+	V	PhotoDiode	AC
D863	RH-PXA020WJZZ+	V	PhotoDiode	AC
D864	RH-PX0448AJZZ+	V	PhotoDiode (except A10/A10S)	AC
⚠ D901	VHDRL1N4005-1	V	RL1N4005	AC
⚠ D902	VHDRL1N4005-1	V	RL1N4005	AC
⚠ D903	VHDRL1N4005-1	V	RL1N4005	AC
⚠ D904	VHDRL1N4005-1	V	RL1N4005	AC
D905	VHDERA2206/-1	V	ERA2206	AC
D906	VHDRL1N4005-1	V	RL1N4005	AC
D908	VHD1SS119//-1	V	1SS119	AB
D910	VHD1SS119//-1	V	1SS119	AB
D911	RH-EX0613GEZZ	V	Zener Diode	AA
D912	RH-EX0645GEZZ	V	Zener Diode	AB
D914	RH-EX0622GEZZ	V	Zener Diode	AA
D916	VHD1SS244//-1	V	1SS244	AB
⚠ D931	VHD10ELS4//-1	V	10ELS4	AD
⚠ D932	VHD10ELS4//-1	V	10ELS4	AD
⚠ D933	VHD15DF1FC/1E	V	15DF1FC	AD
D934	VHDRK34////-1	V	RK34	AE
D961	VHD1SS119//-1	V	1SS119	AB

Ref. No.	Part No.	★	Description	Code
D963	RH-EX0631GEZZ	V	Zener Diode	AA
D971	RH-EX0613GEZZ	V	Zener Diode	AA
D972	RH-EX0677GEZZ	V	Zener Diode	AB
IC901	RH-FX0001AJZZ	V	TCET1103G	AE
IC902	RH-FX0001AJZZ	V	TCET1103G	AE
Q701	RH-PX0233GEZZ	V	PT493FL2	AD
Q702	RH-PX0233GEZZ	V	PT493FL2	AD
			PACKAGED CIRCUITS	
VA903	RH-VX0048CEZZ	V	Varistor	AE
X501	RCRSB0204GEZZ	V	Crystal	AG
X502	RCRSB0232GEZZ	V	Crystal	AG
X701	RCRSB0205GEZZ	V	Crystal	AM
			COILS AND TRANSFORMERS	
FL201	RCiLF0010AJZZ	V	Coil (A60)	AF
L102	VP-CF100K0000	V	Peaking 10µH	AB
L104	VP-MK101K0000	V	Peaking 100µH	AB
L111	VP-XF2R7K0000	V	Peaking 2.7µH	AB
L201	VP-XF221K0000	V	Peaking 220µH	AB
L203	VP-XF150K0000	V	Peaking 15µH (A60)	AB
L301	VP-MK101K0000	V	Peaking 100µH	AB
L302	VP-XF180K0000	V	Peaking 18µH (A60/A80S)	AB
L303	VP-XF151K0000	V	Peaking 150µH (A60/A80S)	AB
L304	VP-XF180K0000	V	Peaking 18µH (except A60/A80S)	AB
L351	VP-MK101K0000	V	Peaking 100µH (A80S)	AB
L501	VP-XF560K0000	V	Peaking 56µH	AB
L502	VP-XF101K0000	V	Peaking 100µH (A75S/A80S)	AB
L503	VP-XF120K0000	V	Peaking 12µH	AB
L602	VP-DF221K0000	V	Peaking 220µH (except A10/A10S)	AB
⚠ L901	RCiLF0320AJZZ	V	Coil	AE
L933	RCiLP0171CEZZ	V	Coil	AD
L934	RCiLP0175CEZZ	V	Coil	AD
L5061	VP-XF120K0000	V	Peaking 12µH (A60)	AB
T601	RTRNH0098GEZZ	V	OSC. Transformer (except A10/A10S)	AE
⚠ T901	RTRNWA032WJZZ	V	Transformer	AK
			CAPACITORS	
C101	VCKYCY1HB221K	V	220p 50V Ceramic	AA
C102	VCKYCY1HB562K	V	5600p 50V Ceramic (A80S)	AA
C103	VCEA9A0JW227M	V	220 6.3V Electrolytic	AB
C107	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C114	VCCCCY1HH271J	V	270p 50V Ceramic	AA
C115	VCCSD41HL470J	V	47p 50V Ceramic	AA
C163	VCEA9M1CW106M	V	10 16V Electrolytic (A80S)	AB
C201	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
C202	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C203	VCCCCY1HH151J	V	150p 50V Ceramic	AA
C204	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C205	VCCCCY1HH220J	V	22p 50V Ceramic	AA
C206	VCKYCY1CF104Z	V	0.1 16V Ceramic (except A60)	AA
C207	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C208	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C209	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C210	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C211	VCEA9M1HW335M	V	3.3 50V Electrolytic	AB
C212	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C213	VCEA9M1HW225M	V	2.2 50V Electrolytic	AB
C215	VCEA9M1HW105M	V	1 50V Electrolytic (except A10/A10S)	AB
C217	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
C218	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C219	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C220	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C221	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C223	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA

Ref. No.	Part No.	★	Description	Code
C227	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C230	VCKYCY1CF104Z	V	0.1 16V Ceramic (A60)	AA
C231	VCEA9M0JW476M	V	47 6.3V Electrolytic (A60)	AB
C232	VCCCCY1HH390J	V	39p 50V Ceramic (A60)	AA
C233	VCCCCY1HH121J	V	120p 50V Ceramic (A60)	AA
C234	VCEA9M1CW106M	V	10 16V Electrolytic (A60)	AB
C235	VCEA9M1CW106M	V	10 16V Electrolytic (A60)	AB
C237	VCKYCY1CF104Z	V	0.1 16V Ceramic (A60)	AA
C252	VCEA0A0JW337M	V	330 6.3V Electrolytic	AC
C253	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C301	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
C302	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C303	VCKYCY1HB102K	V	1000p 50V Ceramic (except A75S/A80S)	AA
C303	VCKYCY1EB103K	V	0.01 25V Ceramic (A75S/A80S)	AA
C304	VCKYCY1HB562K	V	5600p 50V Ceramic (except A75S/A80S)	AA
C304	VCKYCY1EB103K	V	0.01 25V Ceramic (A75S/A80S)	AA
C305	VCKYCY1HB562K	V	5600p 50V Ceramic (except A75S/A80S)	AA
C305	VCKYCY1EB103K	V	0.01 25V Ceramic (A75S/A80S)	AA
C306	VCKYCY1HB102K	V	1000p 50V Ceramic (except A75S/A80S)	AA
C306	VCKYCY1EB103K	V	0.01 25V Ceramic (A75S/A80S)	AA
C307	VCKYCY1EB103K	V	0.01 25V Ceramic (A75S/A80S)	AA
C308	VCKYCY1EB103K	V	0.01 25V Ceramic (A75S/A80S)	AA
C309	VCKYCY1EB103K	V	0.01 25V Ceramic (A75S/A80S)	AA
C310	VCKYCY1EB103K	V	0.01 25V Ceramic (A75S/A80S)	AA
C311	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C313	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C315	VCKYCY1HB331K	V	330p 50V Ceramic (A60/A80S)	AA
C316	VCCCCY1HH180J	V	18p 50V Ceramic (A60/A80S)	AA
C317	VCCCCY1HH120J	V	12p 50V Ceramic (A60/A80S)	AA
C318	VCCCCY1HH120J	V	12p 50V Ceramic (A60/A80S)	AA
C319	VCCCCY1HH270J	V	27p 50V Ceramic (except A60/A80S)	AA
C319	VCCCCY1HH100D	V	10p 50V Ceramic (A60/A80S)	AA
C320	VCCCCY1HH100D	V	10p 50V Ceramic (A75S/A80S)	AA
C324	VCKYCY1HF103Z	V	0.01 50V Ceramic (except A75S/A80S)	AA
C325	VCKYCY1HF103Z	V	0.01 50V Ceramic (except A75S/A80S)	AA
C326	VCCCCY1HH120J	V	12p 50V Ceramic (except A60/A80S)	AA
C327	VCCCCY1HH120J	V	12p 50V Ceramic (except A60/A80S)	AA
C328	VCCCCY1HH180J	V	18p 50V Ceramic (except A60/A80S)	AA
C329	VRS-CY1JF000J	V	0 1/16W Metal Oxide (except A60/A80S)	AA
C351	VCEA9M0JW107M	V	100 6.3V Electrolytic (A80S)	AB
C352	VCKYCY1AF105Z	V	1 10V Ceramic (A80S)	AC

Ref. No.	Part No.	★	Description	Code
C353	VCKYCY1HF103Z	V	0.01 50V Ceramic (A80S)	AA
C354	VCKYCY1HF103Z	V	0.01 50V Ceramic (A80S)	AA
C356	VCCCCY1HH101J	V	100p 50V Ceramic (A80S)	AA
C357	VCKYCY1CB104K	V	0.1 16V Ceramic (A80S)	AB
C358	VCKYCY1CB104K	V	0.1 16V Ceramic (A80S)	AB
C501	VCEA9M0JW107M	V	100 6.3V Electrolytic	AB
C502	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C503	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C504	VCEA9M1HW225M	V	2.2 50V Electrolytic	AB
C505	VCKYCY1EB223K	V	0.022 25V Ceramic	AA
C506	VCEA9M1HW474M	V	0.47 50V Electrolytic	AB
C507	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C508	VCEA9M1HW475M	V	4.7 50V Electrolytic	AB
C509	VCKYD41CY103N	V	0.01 16V Ceramic	AA
C510	VCCCCY1HH270J	V	27p 50V Ceramic (A75S/A80S)	AA
C512	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C513	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C514	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C515	VCKYCY1HB331K	V	330p 50V Ceramic	AA
C516	VCEA9M1HW105M	V	1 50V Electrolytic	AB
C517	VCEA9M1HW335M	V	3.3 50V Electrolytic	AB
C518	VCKYCY1HF333Z	V	0.033 50V Ceramic	AA
C521	VCCCCY1HH5R0C	V	5.0p 50V Ceramic	AA
C522	VCCCCY1HH120J	V	12p 50V Ceramic	AA
C602	VCKYCY1EB103K	V	0.01 25V Ceramic	AA
C603	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C604	VCKYCY1HB821K	V	820p 50V Ceramic	AA
C605	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C606	VCEA9M1HW475M	V	4.7 50V Electrolytic	AB
C607	VCEA9M1HW475M	V	4.7 50V Electrolytic	AB
C608	VCEA9M0JW226M	V	22 6.3V Electrolytic	AB
C611	VCKYCY1CF104Z	V	0.1 16V Ceramic (except A10/A10S)	AA
C617	VCEA9M1CW476M	V	47 16V Electrolytic (except A10/A10S)	AB
C618	VCKYCY1EB103K	V	0.01 25V Ceramic (except A10/A10S)	AA
C619	VCKYCY1EB103K	V	0.01 25V Ceramic (except A10/A10S)	AA
C620	VCEA9M1CW106M	V	10 16V Electrolytic (except A10/A10S)	AB
C621	VCQPYA2AA562J	V	5600p 100V Mylar (except A10/A10S)	AC
C622	VCKYCY1HB222K	V	2200p 50V Ceramic (except A75S/A80S)	AA
C622	VCKYCY1HB102K	V	1000p 50V Ceramic (A75S/A80S)	AA
C630	VCCCCY1HH101J	V	100p 50V Ceramic	AA
C631	VCCCCY1HH101J	V	100p 50V Ceramic	AA
C632	VCCCCY1HH221J	V	220p 50V Ceramic	AA
C634	VCEA9M1HW475M	V	4.7 50V Electrolytic	AB
C636	VCKYCY1HB222K	V	2200p 50V Ceramic (A80S)	AA
C651	VCEA9M1HW475M	V	4.7 50V Electrolytic (A80S)	AB
C653	VCEA9M1CW106M	V	10 16V Electrolytic (A80S)	AB
C654	VCEA9M1CW106M	V	10 16V Electrolytic (A80S)	AB
C655	VCEA9M1CW106M	V	10 16V Electrolytic (A80S)	AB
C656	VCKYCY1HF473Z	V	0.047 50V Ceramic (A80S)	AA
C657	VCKYCY1EB153K	V	0.015 25V Ceramic (A80S)	AA
C658	VCEA9M0JW336M	V	33 6.3V Electrolytic (A80S)	AB
C659	VCEA9M1HW105M	V	1 50V Electrolytic (A80S)	AB
C661	VCEA9M1HW475M	V	4.7 50V Electrolytic (A80S)	AB
C663	VCEA9M1CW106M	V	10 16V Electrolytic (A80S)	AB
C664	VCEA9M1CW106M	V	10 16V Electrolytic (A80S)	AB
C665	VCEA9M1CW106M	V	10 16V Electrolytic (A80S)	AB
C666	VCKYCY1HF473Z	V	0.047 50V Ceramic (A80S)	AA
C667	VCKYCY1EB153K	V	0.015 25V Ceramic (A80S)	AA
C668	VCEA9M0JW336M	V	33 6.3V Electrolytic (A80S)	AB
C669	VCEA9M1HW105M	V	1 50V Electrolytic (A80S)	AB
C671	VCEA9M1CW107M	V	100 16V Electrolytic (A80S)	AB
C672	VCKYCY1CF224Z	V	0.22 16V Ceramic (A80S)	AA
C673	VCEA9M0JW226M	V	22 6.3V Electrolytic (A80S)	AB
C674	VCKYCY1CF224Z	V	0.22 16V Ceramic (A80S)	AA
C675	VCKYCY1CF104Z	V	0.1 16V Ceramic (A80S)	AA
C676	VCEA9M0JW226M	V	22 6.3V Electrolytic (A80S)	AB
C677	VCEA9M1CW106M	V	10 16V Electrolytic (A80S)	AB
C678	VCKYCY1HF103Z	V	0.01 50V Ceramic (A80S)	AA
C679	VCKYCY1CF224Z	V	0.22 16V Ceramic (A80S)	AA
C681	VCKYCY1HF103Z	V	0.01 50V Ceramic (A80S)	AA
C682	VCKYCY1AF105Z	V	1 10V Ceramic (A80S)	AC
C683	VCEA9M1CW107M	V	100 16V Electrolytic (A80S)	AB
C684	VCCCCY1HH560J	V	56p 50V Ceramic (A80S)	AA
C685	VCCCCY1HH560J	V	56p 50V Ceramic (A80S)	AA
C702	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
C703	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C704	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
C705	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C706	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C707	VCCCCY1HH7R0D	V	7.0p 50V Ceramic	AA
C708	VCCCCY1HH100D	V	10p 50V Ceramic	AA
C714	VCCCCY1HH330J	V	33p 50V Ceramic	AA
C715	VCCCCY1HH101J	V	100p 50V Ceramic	AA
C717	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C718	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C721	VCKYCY1CF224Z	V	0.22 16V Ceramic	AA
C726	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C728	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C729	VCKYCY1HB222K	V	2200p 50V Ceramic	AA
C730	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C731	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C734	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C735	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C736	VCCCCY1HH680J	V	68p 50V Ceramic	AA
C738	VCKYCY1HB221K	V	220p 50V Ceramic	AA
C744	VCKYCY1EB103K	V	0.01 25V Ceramic (except A75S/A80S)	AA
C744	VCKYCY1HB222K	V	2200p 50V Ceramic (A75S/A80S)	AA
C745	VCKYD41HB682K	V	6800p 50V Ceramic (A75S/A80S)	AB
C750	VCEA2A1VW107M	V	100 35V Electrolytic	AC
C751	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C752	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA

Ref. No.	Part No.	★	Description	Code
C754	VCKYCY1HF103Z	V	0.01 50V Ceramic (except A10/A10S)	AA
C760	VCEA9M1CW336M	V	33 16V Electrolytic (A50/A50S)	AB
C761	VCCCCY1HH101J	V	100p 50V Ceramic (A50/A50S)	AA
C762	VCKYCY1EB103K	V	0.01 25V Ceramic (A50/A50S)	AA
C763	VCKYCY1EB103K	V	0.01 25V Ceramic (A50/A50S)	AA
C764	VCKYCY1EB103K	V	0.01 25V Ceramic (A50/A50S)	AA
C765	VCKYCY1HF103Z	V	0.01 50V Ceramic (A50/A50S)	AA
C766	VCKYCY1CF104Z	V	0.1 16V Ceramic (A50/A50S)	AA
C767	VCKYCY1HB222K	V	2200p 50V Ceramic (A50/A50S)	AA
C768	VCKYCY1HB222K	V	2200p 50V Ceramic (A50/A50S)	AA
C769	VCKYCY1CF104Z	V	0.1 16V Ceramic (A50/A50S)	AA
C770	VCKYCY1EB223K	V	0.022 25V Ceramic (A50/A50S)	AA
C771	VCCCCY1EH681J	V	680p 25V Ceramic (A50/A50S)	AB
C772	VCKYCY1CB104K	V	0.1 16V Ceramic (A50/A50S)	AB
C773	VCCCCY1HH471J	V	470p 50V Ceramic (A50/A50S)	AA
C774	VCEA9M1CW336M	V	33 16V Electrolytic (except A50A/SA)	AB
C775	VCEA2A1VW107M	V	100 35V Electrolytic (A50/A50S)	AC
C776	VCKYCY1HB221K	V	220p 50V Ceramic (A50/A50S)	AA
C783	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C784	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C785	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C786	VCEA9M1HW105M	V	1 50V Electrolytic	AB
C790	VCKYCY1CF104Z	V	0.1 16V Ceramic (A50/A50S)	AA
C791	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C792	VCKYCY1CF104Z	V	0.1 16V Ceramic (A50/A50S)	AA
C793	VCKYCY1CF104Z	V	0.1 16V Ceramic (A50/A50S)	AA
C794	VCKYCY1HF103Z	V	0.01 50V Ceramic (A50/A50S)	AA
C795	VCKYCY1HF103Z	V	0.01 50V Ceramic (A50/A50S)	AA
C796	VCKYCY1HF103Z	V	0.01 50V Ceramic (A50/A50S)	AA
C797	VCEA9A0JW476M	V	47 6.3V Electrolytic	AB
C799	VCKYCY1HF103Z	V	0.01 50V Ceramic (A50/A50S)	AA
C805	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
⚠ C901	RC-FZ028SCEZZ	V	0.1 AC250V M.Polypro	AD
⚠ C903	RC-KZ0105GEZZ	V	2200p AC250V Ceramic	AD
⚠ C906	RC-EZ0437GEZZ	V	68 200V Electrolytic	AK
C907	VCFYAA2GA473K+	V	0.047 400V M.Polypro	AE
C909	RC-KZ0112CEZZ	V	100p 50V Ceramic	AB
C911	VCQYTA1HM272K	V	2700p 50V Mylar	AA
C912	RC-EZ0661GEZZ	V	1 400V Electrolytic	AD
C913	VCEA0M1HW226M+	V	22 50V Electrolytic	AB
C914	VCQYTA1HM152K	V	1500p 50V Mylar	AB
⚠ C931	VCEA0M1JW476M+	V	47 63V Electrolytic	AC
⚠ C932	VCEA0A1VW477M	V	470 35V Electrolytic	AB
⚠ C933	RC-EZ0439GEZZ	V	2200 16V Electrolytic	AF
⚠ C934	RC-EZ1075CEZZ	V	2200 10V Electrolytic	AF
⚠ C938	VCEA0A1EW107M	V	100 25V Electrolytic (except A10S)	AC
⚠ C939	VCEA0A0JW108M	V	1000 6.3V Electrolytic	AC
C961	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C962	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C972	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C5062	VCCCCY1HH101J	V	100p 50V Ceramic (A60)	AA
C7716	VCKYCY0JB105K	V	1 6.3V Ceramic	AC
C7741	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C7742	VCEA9M0JW226M	V	22 6.3V Electrolytic	AB
C7743	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C9335	VCEA9M1HW105M	V	1 50V Electrolytic	AB
C9336	VCEA9M1HW105M	V	1 50V Electrolytic	AB

RESISTORS

RJ901	VRS-CY1JF000J	V	0 1/16W Metal Oxide (A50/A50S)	AA
RJ904	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ907	VRS-CY1JF000J	V	0 1/16W Metal Oxide (A75S/A80S)	AA
RJ908	VRS-CY1JF000J	V	0 1/16W Metal Oxide (A80S)	AA
RJ912	VRS-CY1JF000J	V	0 1/16W Metal Oxide (A80S)	AA
RJ932	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ933	VRS-CY1JF000J	V	0 1/16W Metal Oxide (A50/A50S)	AA
RJ934	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ935	VRS-CY1JF000J	V	0 1/16W Metal Oxide (except A80SA)	AA
R2	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R7	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R9	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R11	VRS-CY1JF000J	V	0 1/16W Metal Oxide (except A10/A10S)	AA
R16	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R104	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R105	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R111	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R112	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R150	VRD-RA2BE822J	V	8.2k 1/8W Carbon (A80S)	AA
R152	VRD-RA2BE561J	V	560 1/8W Carbon	AA
R153	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R154	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide (except A80SA)	AA
R164	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R201	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide	AA
R202	VRS-CY1JF182J	V	1.8k 1/16W Metal Oxide	AA
R203	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide (except A60)	AA
R203	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide (A60)	AA
R207	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R211	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R212	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R225	VRS-CY1JF750J	V	75 1/16W Metal Oxide	AA
R227	VRS-CY1JF750J	V	75 1/16W Metal Oxide (except A10/A10S)	AA
R234	VRS-CY1JF123J	V	12k 1/16W Metal Oxide (A60)	AA
R235	VRS-CY1JF391J	V	390 1/16W Metal Oxide (A60)	AA
R236	VRS-CY1JF391J	V	390 1/16W Metal Oxide (A60)	AA
R237	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide (A60)	AA
R238	VRS-CY1JF471J	V	470 1/16W Metal Oxide (A60)	AA
R239	VRS-CY1JF391J	V	390 1/16W Metal Oxide (A60)	AA
R240	VRS-CY1JF103J	V	10k 1/16W Metal Oxide (A60)	AA
R252	VRD-RA2EE331J	V	330 1/4W Carbon	AA
R253	VRS-CY1JF101J	V	100 1/16W Metal Oxide	AA
R254	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R286	VRS-CY1JF470J	V	47 1/16W Metal Oxide	AA
R301	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code
R302	VRD-RA2BE561J	V	560 1/8W Carbon (A60/A80S)	AA
R303	VRS-CY1JF392J	V	3.9k 1/16W Metal Oxide (A60/A80S)	AA
R309	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide	AA
R312	VRS-CY1JF561J	V	560 1/16W Metal Oxide (except A60/A80S)	AA
R313	VRS-CY1JF392J	V	3.9k 1/16W Metal Oxide (except A60/A80S)	AA
R350	VRS-CY1JF000J	V	0 1/16W Metal Oxide (except A75S/A80S)	AA
R351	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (A80S)	AA
R501	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R502	VRS-CY1JF273J	V	27k 1/16W Metal Oxide	AA
R504	VRS-CY1JF221J	V	220 1/16W Metal Oxide	AA
R506	VRS-CY1JF224J	V	220k 1/16W Metal Oxide	AA
R511	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide	AA
R512	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide	AA
R601	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide (except A75S/A80S)	AA
R601	VRS-CY1JF183J	V	18k 1/16W Metal Oxide (A75S/A80S)	AA
R602	VRS-CY1JF274J	V	270k 1/16W Metal Oxide	AA
R603	VRS-CY1JF221J	V	220 1/16W Metal Oxide	AA
R604	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R605	VRS-CY1JF000J	V	0 1/16W Metal Oxide (A10/A10S)	AA
R605	VRS-CY1JF153J	V	15k 1/16W Metal Oxide (except A10/A10S)	AA
R606	VRS-CY1JF000J	V	0 1/16W Metal Oxide (A10/A10S)	AA
R606	VRS-CY1JF273J	V	27k 1/16W Metal Oxide (except A10/A10S)	AA
R611	VRS-CY1JF153J	V	15k 1/16W Metal Oxide (A80S)	AA
R611	VRS-CY1JF393J	V	39k 1/16W Metal Oxide (except A10/A10S/A80S)	AA
R612	VRS-CY1JF153J	V	15k 1/16W Metal Oxide (except A10/A10S/A80S)	AA
R612	VRS-CY1JF823J	V	82k 1/16W Metal Oxide (A80S)	AA
R616	VRS-CY1JF183J	V	18k 1/16W Metal Oxide (A75S/A80S)	AA
R618	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R619	VRS-CY1JF470J	V	47 1/16W Metal Oxide (except A10/A10S)	AA
R620	VRS-CY1JF153J	V	15k 1/16W Metal Oxide (except A10/A10S)	AA
R621	VRD-RA2EE4R7J	V	4.7 1/4W Carbon (except A10/A10S)	AA
R623	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (A80S)	AA
R623	VRS-CY1JF273J	V	27k 1/16W Metal Oxide (except A10/A10S/A80S)	AA
R624	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (except A10/A10S)	AA
R625	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide (except A10/A10S)	AA
R626	VRS-CY1JF101J	V	100 1/16W Metal Oxide (except A10/A10S)	AA
R627	VRS-CY1JF392J	V	3.9k 1/16W Metal Oxide (except A10/A10S)	AA
R631	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R632	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R633	VRD-RA2BE104J	V	100k 1/8W Carbon	AA
R634	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R637	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide	AA
R638	VRD-RA2BE561J	V	560 1/8W Carbon	AA
R653	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (A80S)	AA
R654	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide (A80S)	AA
R657	VRS-CY1JF101J	V	100 1/16W Metal Oxide (A80S)	AA
R658	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (A80S)	AA
R659	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (A80S)	AA
R660	VRS-CY1JF471J	V	470 1/16W Metal Oxide (A80S)	AA
R663	VRD-RA2BE473J	V	47k 1/8W Carbon (A80S)	AA
R664	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide (A80S)	AA
R667	VRD-RA2BE101J	V	100 1/8W Carbon (A80S)	AB
R668	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (A80S)	AA
R669	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (A80S)	AA
R670	VRS-CY1JF471J	V	470 1/16W Metal Oxide (A80S)	AA
R671	VRS-CY1JF000J	V	0 1/16W Metal Oxide (A80S)	AA
R672	VRS-CY1JF221J	V	220 1/16W Metal Oxide (A80S)	AA
R673	VRS-CY1JF221J	V	220 1/16W Metal Oxide (A80S)	AA
R674	VRD-RA2BE273J	V	27k 1/8W Carbon (A80S)	AA
R675	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide (A80S)	AA
R676	VRS-CY1JF102J	V	1k 1/16W Metal Oxide (A80S)	AA
R677	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (A80S)	AA
R678	VRS-CY1JF333J	V	33k 1/16W Metal Oxide (A80S)	AA
R685	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide (A80S)	AA
R686	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide	AA
R689	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide (A80S)	AA
R690	VRS-CY1JF101J	V	100 1/16W Metal Oxide (A80S)	AA
R691	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R701	VRD-RA2BE104J	V	100k 1/8W Carbon (except A60)	AA
R704	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R705	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R707	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R708	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide	AA
R709	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide	AA
R710	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide (except A80SA)	AA
R713	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R721	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (except A75S)	AA
R721	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide (A75S)	AA
R728	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide	AA
R730	VRS-CY1JF101J	V	100 1/16W Metal Oxide	AA
R731	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R738	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R739	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R741	VRS-CY1JF123J	V	12k 1/16W Metal Oxide	AA
R742	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA
R743	VRS-CY1JF563J	V	56k 1/16W Metal Oxide	AA
R744	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA
R745	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R746	VRS-CY1JF182J	V	1.8k 1/16W Metal Oxide	AA
R747	VRS-CY1JF681J	V	680 1/16W Metal Oxide	AA
R748	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R750	VRD-RA2BE473J	V	47k 1/8W Carbon	AA
R751	VRD-RA2BE562J	V	5.6k 1/8W Carbon	AA
R752	VRD-RA2BE103J	V	10k 1/8W Carbon	AA
R754	VRD-RA2EE181J	V	180 1/4W Carbon	AA
R756	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R757	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code
			(A50/A50S)	
R760	VRG-SC2EB1R0J	V	1 1/4W FuseResistor	AB
R761	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide (A50/A50S)	AA
R762	VRD-RM2HD1R0J	V	1 1/2W Carbon (A50/A50S)	AA
R763	VRD-RM2HD1R0J	V	1 1/2W Carbon (A50/A50S)	AA
R764	VRD-RM2HD1R0J	V	1 1/2W Carbon (A50/A50S)	AA
R765	VRD-RM2HD1R0J	V	1 1/2W Carbon (A50/A50S)	AA
R766	VRS-CY1JF224J	V	220k 1/16W Metal Oxide (A50/A50S)	AA
R768	VRS-CY1JF564J	V	560k 1/16W Metal Oxide (A50/A50S)	AA
R771	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R772	VRS-CY1JF122J	V	1.2k 1/16W Metal Oxide (A50/A50S)	AA
R781	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R782	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R783	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R785	VRD-RA2BE391J	V	390 1/8W Carbon	AA
R786	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R788	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R789	VRD-RA2BE391J	V	390 1/8W Carbon	AA
R790	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R792	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R809	VRD-RA2BE101J	V	100 1/8W Carbon	AB
R811	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R813	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide	AA
R814	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide	AA
R815	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R816	VRD-RA2BE822J	V	8.2k 1/8W Carbon	AA
R818	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R821	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R823	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide	AA
R824	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide	AA
R825	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R826	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide	AA
R827	VRD-RA2BE333J	V	33k 1/8W Carbon	AA
R828	VRD-RA2BE563J	V	56k 1/8W Carbon	AA
R841	VRD-RA2BE221J	V	220 1/8W Carbon	AA
R842	VRD-RA2BE221J	V	220 1/8W Carbon	AA
R843	VRD-RA2BE221J	V	220 1/8W Carbon	AA
R861	VRD-RA2BE221J	V	220 1/8W Carbon	AA
R863	VRD-RA2BE221J	V	220 1/8W Carbon	AA
R864	VRD-RA2BE221J	V	220 1/8W Carbon	AA
R865	VRD-RA2BE221J	V	220 1/8W Carbon (except A10/A10S)	AA
⚠ R901	RR-HZ0014GEZZ	V	12M	AE
R902	VRD-RA2HD105J	V	1M 1/2W Carbon	AA
R904	RR-SZ0007GEZZ	V	68k 2W	AB
R905	VRD-RA2HD105J	V	1M 1/2W Carbon	AA
R906	VRD-RM2HD273J	V	27k 1/2W Carbon	AA
R907	VRN-VV3DBR56J	V	0.56 2W Metal Film	AA
R909	VRS-CY1JF563J	V	56k 1/16W Metal Oxide	AA
R910	VRD-RM2HD102J	V	1k 1/2W Carbon	AA
R911	VRS-CY1JF101J	V	100 1/16W Metal Oxide	AA
R913	VRD-RA2HD105J	V	1M 1/2W Carbon	AA
R914	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R916	VRS-CY1JF333J	V	33k 1/16W Metal Oxide	AA
R917	VRD-RA2BE153J	V	15k 1/8W Carbon	AA
R930	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R931	VRS-CY1JF561J	V	560 1/16W Metal Oxide	AA
R932	VRD-RA2BE471J	V	470 1/8W Carbon	AA
R933	VRS-CY1JF122J	V	1.2k 1/16W Metal Oxide	AA
R934	VRS-CY1JF152J	V	1.5k 1/16W Metal Oxide	AA
R935	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R936	VRD-RA2BE101J	V	100 1/8W Carbon	AB
R938	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R941	VRS-CY1JF273J	V	27k 1/16W Metal Oxide	AA
R942	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R943	VRD-RA2BE152J	V	1.5k 1/8W Carbon	AA
R961	VRD-RA2BE561J	V	560 1/8W Carbon	AA
R963	VRD-RA2EE121J	V	120 1/4W Carbon (except A80S)	AA
R963	VRD-RA2EE101J	V	100 1/4W Carbon (A80S)	AA
R965	VRD-RA2BE103J	V	10k 1/8W Carbon	AA
R968	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R969	VRD-RA2EE102J	V	1k 1/4W Carbon	AA
R970	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide	AA
R971	VRD-RM2HD471J	V	470 1/2W Carbon	AA
R973	VRD-RA2BE333J	V	33k 1/8W Carbon	AA

MISCELLANEOUS PARTS

⚠ ACC901	QACCV2009AJZZ	V	AC Cord	AM
⚠ F901	QFS-C2025CEZZ	V	Fuse, 2A/250V	AD
FB101	RBLN-0043CEZZY	V	Ferrite Bead	AB
FB701	RBLN-0090GEZZY	V	Ferrite Bead	AB
FB901	RBLN-0090GEZZY	V	Ferrite Bead	AB
FB931	RBLN-0090GEZZ	V	Ferrite Bead	AB
⚠ FH901	QFSHD1017CEZZ	V	Fuse Holder	AC
⚠ FH902	QFSHD1018CEZZ	V	Fuse Holder	AC
J201	QJAKF0068AJZZ	V	Rear AV Jack (A10/A10S)	AE
J201	QJAKH0011AJZZ	V	Rear AV Jack (except A10/A10S/A80S)	AK
J201	QJAKL0006AJZZ	V	Rear AV Jack (A80S)	AL
P501	QPLGZ0509REZZ	V	Plug (A60)	AC
P502	QPLGZ0409REZZ	V	Plug (A60)	AB
P503	QPLGZ0509REZZ	V	Plug (A60)	AC
P701	QPLGZ1283GEZZ	V	Plug, 12pin (except A50A/SA)	AE
P702	QPLGZ1283GEZZ	V	Plug, 12pin (A50/A50S)	AE
P809	QPLGN0459REZZ	V	Plug, 7pin(AO)	AG
⚠ P901	QPLGN0269GEZZ	V	Plug, 3pin	AB
RDA701	PRDAFA001WJFW	V	Heat Sink (A50/A50S)	AC
RMC801	RRMCU0086GEZZ	V	Remote Receiver	AQ
S701	QSW-F0042AJZZ	V	Rec Tip Switch (except A10/A10S)	AG
S704	QSW-RA001WJZZ	V	Switch	AF
S801	QSW-K0004AJZZ	V	Switch	AB
S802	QSW-K0004AJZZ	V	Switch	AB
S803	QSW-K0004AJZZ	V	Switch	AB
S804	QSW-K0004AJZZ	V	Switch	AB
S805	QSW-K0004AJZZ	V	Switch	AB
S806	QSW-K0004AJZZ	V	Switch	AB
S807	QSW-K0004AJZZ	V	Switch	AB
S808	QSW-K0004AJZZ	V	Switch	AB
SC301	QSOCNA006WJZZ	V	Socket, 9pin(AH)	AD
SC601	QSOCN0611REN1	V	Socket, 6pin(AA)	AC
SC602	QSOCZ0293GEZZ	V	Socket, 2pin(AE) (except A10/A10S)	AC
SC701	QSOCN1095REZZ	V	Socket, 10pin(AD) (A50/A50S)	AC
TP201	QPLGN0447REZZ	V	Plug, 4pin(TP201-4)	AA
W851	LHLDZ2185AJ00	V	Holder	AB
W852	LHLDZ2185AJ00	V	Holder	AB

DUNTKB106TEV5
OPERATION Unit

RESISTORS

R881	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R882	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R883	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA

MISCELLANEOUS PARTS

S881	QSW-K0004AJZZ	V	Switch, PLAY	AB
S882	QSW-K0004AJZZ	V	Switch, STOP	AB
S884	QSW-K0004AJZZ	V	Switch, REW	AB
S886	QSW-K0004AJZZ	V	Switch, FF	AB
SC881	QSOCZ0450CEZZ	V	Socket, 4pin(OA)	AC

Ref. No.	Part No.	★	Description	Code

DUNTB205TEV1
SECAM Unit (VC-A60 only)

INTEGRATED CIRCUITS

IC501	VHiTA1238F/-1	V	TA1238F	AR

TRANSISTORS

Q504	VS2PD601AR/-1	V	2PD601AR	AB
Q505	VS2PD601AR/-1	V	2PD601AR	AB
Q506	VSKRC104S//-1	V	KRC104S	AA
Q507	VSKRA104S//-1	V	KRA104S	AA

PACKAGED CIRCUITS

X503	RCRSB0225GEZZ	V	Crystal	AH

CAPACITORS

C551	VCKYCY1EB103K	V	0.01	25V	Ceramic	AA
C552	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C553	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C554	VCCCCY1HH120J	V	12p	50V	Ceramic	AA
C555	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C557	VCKYCY1CB393K	V	0.039	16V	Ceramic	AA
C558	VCEA9M1HW225M	V	2.2	50V	Electrolytic	AB
C559	VCKYCY1CF334Z	V	0.33	16V	Ceramic	AA
C560	VCKYCY1CB104K	V	0.1	16V	Ceramic	AB
C561	VCKYCY1CB104K	V	0.1	16V	Ceramic	AB
C562	VCKYCY1CB104K	V	0.1	16V	Ceramic	AB
C563	VCEA9M0JW476M	V	47	6.3V	Electrolytic	AB
C564	VCEA9M1HW474M	V	0.47	50V	Electrolytic	AB
C565	VCKYCY1CB473K	V	0.047	16V	Ceramic	AA
C566	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C567	VCEA9M1HW474M	V	0.47	50V	Electrolytic	AB
C568	VCKYCY1CB473K	V	0.047	16V	Ceramic	AA
C569	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C570	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C571	VCKYCY1CF334Z	V	0.33	16V	Ceramic	AA

RESISTORS

R551	VRS-CY1JF562J	V	5.6k	1/16W	Metal Oxide	AA
R552	VRS-CY1JF103J	V	10k	1/16W	Metal Oxide	AA
R553	VRS-CY1JF103J	V	10k	1/16W	Metal Oxide	AA
R554	VRS-CY1JF102J	V	1k	1/16W	Metal Oxide	AA
R555	VRS-CY1JF102J	V	1k	1/16W	Metal Oxide	AA
R556	VRS-CY1JF392J	V	3.9k	1/16W	Metal Oxide	AA
R557	VRS-CY1JF562J	V	5.6k	1/16W	Metal Oxide	AA
R558	VRS-CY1JF563J	V	56k	1/16W	Metal Oxide	AA
R559	VRS-CY1JF102J	V	1k	1/16W	Metal Oxide	AA
R560	VRS-CY1JF103J	V	10k	1/16W	Metal Oxide	AA
R561	VRS-CY1JF473J	V	47k	1/16W	Metal Oxide	AA
R562	VRS-CY1JF472J	V	4.7k	1/16W	Metal Oxide	AA
R563	VRS-CY1JF222J	V	2.2k	1/16W	Metal Oxide	AA
R564	VRS-CY1JF222J	V	2.2k	1/16W	Metal Oxide	AA
R566	VRS-CY1JF102J	V	1k	1/16W	Metal Oxide	AA
R567	VRS-CY1JF102J	V	1k	1/16W	Metal Oxide	AA
R568	VRS-CY1JF222J	V	2.2k	1/16W	Metal Oxide	AA
R571	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

SC501	QSOCZ0509REZZ	V	Socket, 8pin	AC
SC502	QSOCZ0409REZZ	V	Socket, 4pin	AC
SC503	QSOCZ0509REZZ	V	Socket, 8pin	AC

MECHANISM CHASSIS PARTS

Ref. No.	Part No.	★	Description	Code
1	LBNDK1021AJZZ	V	Tension Band Ass'y	AC
2	LBOSZ1022AJZZ	V	Tension Arm Boss	AB
4	LBOSZ1006AJZZ	V	Cassette Stay L	AD
5	LCHSM0186AJZZ	V	Main Chassis Ass'y	AQ
6	LHLDZA049WJZZ	V	Loading Motor Block	AD
7	LPOLM0085GEZZ	J	Supply Pole Base Ass'y	AF
8	LPOLM0086GEZZ	J	Take-up Pole Base Ass'y	AF
9	MLEVF0544AJZZ	V	Tension Arm Ass'y	AE
10	MARMP0061AJZZ	V	Loading Arm Take-up	AC
11	MARMP0062AJZZ	V	Loading Arm Supply	AC
12	MLEVF0545GEZZ	J	Pinch Roller Lever Ass'y	AM
13	NBRGP0031AJZZ	V	Pinch Guide Bearing	AB
16	LANGFA008WJFW	V	A/C Head Plate	AD
17	LHLDW1895AJZZ	V	A/C Head FFC Holder	AB
18	MLEVP0347AJZZ	V	Pinch Double Action Lever	AC
19	MLEVP0344AJZZ	V	Reverse Guide Lever Ass'y	AE
20	MLEVP0342AJZZ	V	Loading Link Take-up	AB
21	MLEVP0343AJZZ	V	Loading Link Supply	AB
23	MLEVP0346AJZZ	V	Clutch Lever	AC
24	MLEVP0348AJZZ	V	Supply Main Brake	AB
25	MLEVP0349AJZZ	V	Take-up Main Brake Ass'y	AC
27	MSLiP0016AJZZ	V	Shifter	AD
28	MSPRD0210AJFJ	V	Reverse Guide Spring	AB
29	MSPRD0213AJFJ	V	Take-up Load Double Action Spring	AB
30	MSPRD0214AJFJ	V	Supply Load Double Action Spring	AB
31	MSPRT0439AJFJ	V	Pinch Double Action Spring	AB
32	MSPRT0438AJFJ	V	Main Brake Spring	AB
33	MSPRT0416AJFJ	V	Tension Spring	AD
34	NBLTK0069AJ00	V	H-Reel Belt	AC
35	NDAiV1093AJ00	V	Reel Disk	AC
36	NGERW1082AJZZ	V	Worm Wheel Gear	AC
37	NGERH1344AJZZ	V	Master Cam	AD
38	NGERH1343AJZZ	V	Synchro Gear	AB
41	NGERH1345AJZZ	V	Pinch Drive Cam	AC
43	NGERH1299AJZZ	V	Reel Relay Gear	AE
44	NGERW1081AJZZ	V	Worm Gear	AB
45	NGERH1342AJZZ	V	Loading Connect Gear	AB
46	NiDR-0036AJZZ	V	Idler Ass'y	AD
48	NPLYV0173AJZZ	V	Limiter Pully Ass'y	AF
49	NROLP0131GEZZ	J	Guide Roller	AL
51	MSPRC0217AJFJ	V	Guide Roller Spring	AC
52	PREFL1025AJZZ	V	Light Guide	AC
53	QCNW-A245WJZZ	V	Drum Motor FFC (except for VC-A50S)	AE
53	QCNW-A278WJZZ	V	Drum Motor FFC (VC-A50S)	AF
55	QCNW-A247WJZZ	V	A/C Head FFC	AD
56	QPWBFB112WJZZ	V	A/C Head PWB	AC
57	QPWBFB181WJZZ	V	Loading Motor PWB (VC-A50S)	AB
58	RHEDTA001WJZZ	V	Full Erase Head	AH
59	RHEDUA001WJZZ	V	A/C Head Ass'y W/O AE (VC-A80S)	AP
59	RHEDUA002WJZZ	V	A/C Head Ass'y with AE (except for VC-A80S)	AP
60	RMOTMA001WJZZ	V	Loading Motor	AK
61	RMOTNA001WJZZ	V	Capstan Motor (except for VC-A50S)	AX
61	RMOTNA002WJZZ	V	Capstan Motor (VC-A50S)	AU
62	RMOTP1139GEZZ	J	Drum Drive Motor	AT
63	DDRMW0041TEX3	V	Upper and Lower Drum Ass'y (VC-A10/A10S/A500/A50/A50S/A50S(B))	BF
63	DDRMW0041TEX2	V	Upper and Lower Drum Ass'y(VC-A60)	BF
63	DDRMW0042TEX2	V	Upper and Lower Drum Ass'y (VC-A75S)	BF
63	DDRMW0043TEX2	V	Upper and Lower Drum Ass'y (VC-A80S)	BH
64	QCNW-A244WJZZ	V	Loading Motor Wire (except for VC-A50S)	AB
65	QBRSK0041GEZZ	J	Earth Brush Ass'y	AD
66	XBPSD26P04500	V	2.6P+4.5A(D/M)	AB
67	PGiDM0187AJZZ	V	Open Guide	AC
70	MSPRC0228AJFJ	V	Azimuth Spring	AB
71	MSPRC0224AJFJ	V	Height Adjusting Spring	AC
72	LHLDW1894AJZZ	V	R/T FFC Holder	AB
73	LHLDW1896AJZZ	V	Drum/Loading Motor Holder	AB

SCREW, NUTS AND WASHERS

Ref. No.	Part No.	★	Description	Code
201	XBPSD26P08000	V	2.6P+8S A/C Head	AA
202	LX-BZ3096GEFD	J	Tilt Adjusting Screw	AA
203	LX-HZ3082GEZZ	J	WSW 2.6+6(AC)	AD
204	XJPSD26P06000	V	2.6+6S(CAPST)	AA
205	LX-RZ3015GEFJ	J	CS Washer	AB
208	XRESJ30-06000	V	E-3(MASTERCAM)	AA
209	XWHJZ31-03052	V	Reel Washer 0.3	AC
210	XWHJZ31-04052	V	Reel Washer 0.4	AC
211	XWHJZ31-05052	V	Reel Washer 0.5	AC
212	XWHJZ31-06052	V	Reel Washer 0.6	AC
213	XWHJZ31-07052	V	Reel Washer 0.7	AC
214	XWHJZ31-08052	V	Reel Washer 0.8	AC
215	XHPSD26P05WS0	V	L/M Block Screw	AC
216	LX-WZ1041GE00	J	CW2.6-6-0.5 ARM	AA
219	LX-WZ1098GE00	J	CW2.6-4.7-0.5	AB
221	XBPSD26P06000	V	Azimuth Adjusting Screw	AA
222	XBPSD26P14000	V	A/C Head Screw	AA
224	XBPSD30P06000	V	3P+6S (DRM FIX)	AA

CASSETTE HOUSING CONTROL PARTS

Ref. No.	Part No.	★	Description	Code
300	CHLDX3083TEV1	V	Cassette Housing Control Ass'y	AP
301	LANGF9661AJFW	V	Upper Plate	AD
302	LHLDX1049AJ00	V	Frame (L)	AD
303	LHLDX1050AJ00	V	Frame (R)	AE
304	LHLDX1051AJZZ	V	Holder (L)	AC
305	LHLDX1052AJZZ	V	Holder (R)	AC
306	MARMP0063AJZZ	V	Drive Arm (L)	AB
307	MARMP0064AJZZ	V	Drive Arm (R)	AC
308	MLEVP0350AJZZ	V	Drive Lever	AD
309	MLEVP0351AJZZ	V	Proof Lever	AC
310	MLEVP0352AJ00	V	Sensor Plate	AB
311	MLEVP0353AJ00	V	Open Lever	AB
312	MSLiF0079AJFW	V	Slider	AD
313	MSPRD0212AJFJ	V	Drive Arm Spring	AB
314	MSPRP0175AJFJ	V	Cassette Spring	AE
315	MSPRD0215AJFJ	V	Proof Lever Spring	AB
317	NSFTD0065AJFD	V	Main Shaft	AD

CABINET PARTS

Ref. No.	Part No.	★	Description	Code
600	GCABA3169AJSM	V	Top Cabinet (A10/A50/A60/A75)	AN
600	GCABA3169AJSW	V	Top Cabinet (A10S/A500/A50S/A50SB/A80S)	AN
601	GCABB1253AJNA	V	Main Frame(A10S/A500L/A50S/A50SB/A80S)	AN
601	GCABB1253AJNB	V	Main Frame (A10/A50/A60/A75)	AN
602	GCOVA2228AJZZ	V	Antenna Terminal Cover (A10/A10S)	AC
602	GCOVA2229AJZZ	V	Antenna Terminal Cover (A500/A50/A50S/A50SB/A60/A75)	AC
602	GCOVAA007WJZZ	V	Antenna Terminal Cover (A80S)	AC
603	XHPSD30P06WS0	V	Screw	AA
604	LANGK0261AJFW	V	Top Cabinet Fix Angle	AC
605	XEPSD30P14XS0	V	Screw	AB
606	LX-HZ3047GEFF	V	Screw	AA
607	XEBSD30P12000	V	Screw	AA
608	LX-BZ3014GEFD	V	Screw	AA
610	PGUMS0026AJZZ	V	Foot Cushion	AB
611	TLABMA027WJZZ	V	Model Label (A10)	AC
611	TLABMA028WJZZ	V	Model Label (A10S)	AC
611	TLABM4641AJZZ	V	Model Label (A50)	AC
611	TLABM4634AJZZ	V	Model Label (A500)	AC
611	TLABM4654AJZZ	V	Model Label (A50S)	AC
611	TLABMA114WJZZ	V	Model Label (A50SB)	AC
611	TLABMA037WJZZ	V	Model Label (A60)	AC
611	TLABMA038WJZZ	V	Model Label (A75)	AC
611	TLABM4642AJZZ	V	Model Label (A80S)	AC
613	XHPSD26P06WS0	V	Screw	AA
614	PSLDM4594AJFW	V	H/A Shield	AD
615	LHLDZ2185AJ00	V	Sensor LED Holder	AB

FRONT PANEL PARTS

Ref. No.	Part No.	★	Description	Code
500	CPNLCA018TEV1	V	Front Panel Ass'y (A10)	AQ
500	CPNLCA019TEV1	V	Front Panel Ass'y (A10S)	AS
500	CPNLC3058TEV1	V	Front Panel Ass'y (A500)	AT
500	CPNLC3002TEV1	V	Front Panel Ass'y (A50)	AQ
500	CPNLC3067TEV1	V	Front Panel Ass'y (A50S/A50SB)	AS
500	CPNLCA021TEV1	V	Front Panel Ass'y (A60)	AQ
500	CPNLCA022TEV1	V	Front Panel Ass'y (A75)	AQ
500	CPNLC3003TEV1	V	Front Panel Ass'y (A80S)	AS
500-1	*Not Available*	V	Front Panel	–
500-2	GCOVA2219AJZZ	V	Timer LED Cover	AC
500-3	HDECQA012WJSA	V	Cassette Flap (A10)	AE
500-3	HDECQA012WJSB	V	Cassette Flap (A10S)	AE
500-3	HDECQ2482AJSA	V	Cassette Flap (A500)	AE
500-3	HDECQ2489AJSA	V	Cassette Flap (A50)	AE
500-3	HDECQ2489AJSB	V	Cassette Flap (A50S/A50SB)	AE
500-3	HDECQA018WJSA	V	Cassette Flap (A60)	AE
500-3	HDECQA019WJSA	V	Cassette Flap (A75)	AE
500-3	HDECQ2490AJSA	V	Cassette Flap (A80S)	AE
500-4	HDECQ2483AJSA	V	Window Dec. (A500)	AE
500-6	HINDPA014WJSA	V	Timer LED Indicator (A10)	AD
500-6	HINDPA014WJSB	V	Timer LED Indicator (A10S)	AD
500-6	HINDPA011WJSA	V	Timer LED Indicator (A500)	AD
500-6	HINDP2243AJSA	V	Timer LED Indicator (A50/A75)	AD
500-6	HINDP2243AJSB	V	Timer LED Indicator (A50S/A50SB/A80S)	AD
500-6	HINDPA019WJSA	V	Timer LED Indicator (A60)	AD
500-7	MSPRD0105AJFJ	V	Cassette Flap Spring	AB
500-10	JBTN-3164AJSA	V	Button, Power (A10/A50/A60/A75)	AC
500-10	JBTN-3164AJSB	V	Button, Power (A10S/A50S/A50SB/A80S)	AC
500-11	GCOVA2222AJZZ	V	R/C Cover (except A500)	AC
500-11	GCOVA2214AJZZ	V	R/C Cover (A500)	AC
500-12	JBTN-3165AJSA	V	Button, CH (A10/A50/A60/A75)	AC
500-12	JBTN-3165AJSB	V	Button, CH (A10S/A50S/A50SBA80S)	AC
501	JBTN-3163AJSA	V	Button, STOP/PLAY (A10/A50/A60/A75)	AC
501	JBTN-3163AJSB	V	Button, STOP/PLAY (A10S/A50S/A50SB/A80S)	AC
501	JBTN-3159AJSA	V	Button, STOP/PLAY (A500)	AC
502	JBTN-3166AJSA	V	Button, FF/REW (A10/A50/A60/A75)	AC
502	JBTN-3166AJSB	V	Button, FF/REW (A10S/A50S/A50SB/A80S)	AC
502	JBTN-3162AJSA	V	Button, FF/REW (A500)	AC

SUPPLIED ACCESSORIES

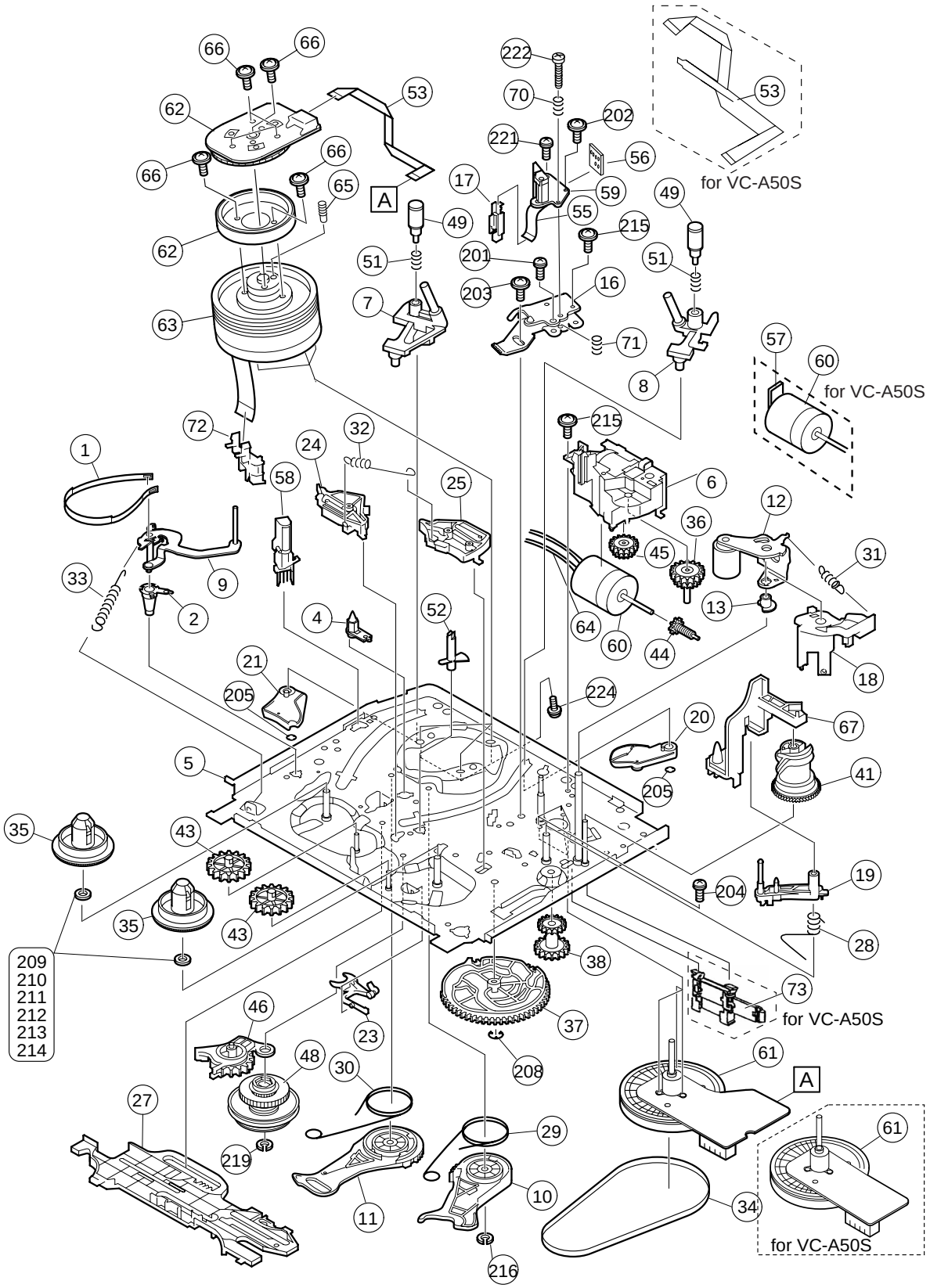
	QCNW-8379AJZZ	V	75 ohm Coaxial Cable	AF
	RRMCGA040WJSA	V	Infrared Remote Control Unit (A10/A10S)	AP
	RRMCGA041WJSA	V	Infrared Remote Control Unit (A500L/A50/A50S/A50SB/A75)	AP
	RRMCGA042WJSA	V	Infrared Remote Control Unit (A60)	AP
	RRMCGA043WJSA	V	Infrared Remote Control Unit (A80S)	AP
	TiNS-A013WJZZ	V	Operation Manual (A10/A10S)	AD
	TiNS-A015WJZZ	V	Operation Manual (A50/A50S/A50SB)	AD
	TiNS-A017WJZZ	V	Operation Manual (A500L)	AD
	TiNS-A018WJZZ	V	Operation Manual (A60)	AD
	TiNS-A019WJZZ	V	Operation Manual (A75)	AD
	TiNS-A020WJZZ	V	Operation Manual (A80S)	AD
	TMAPCA001WJZZ	V	Schematic Diagram (A500)	AB

PACKING PARTS
(NOT REPLACEMENT ITEM)

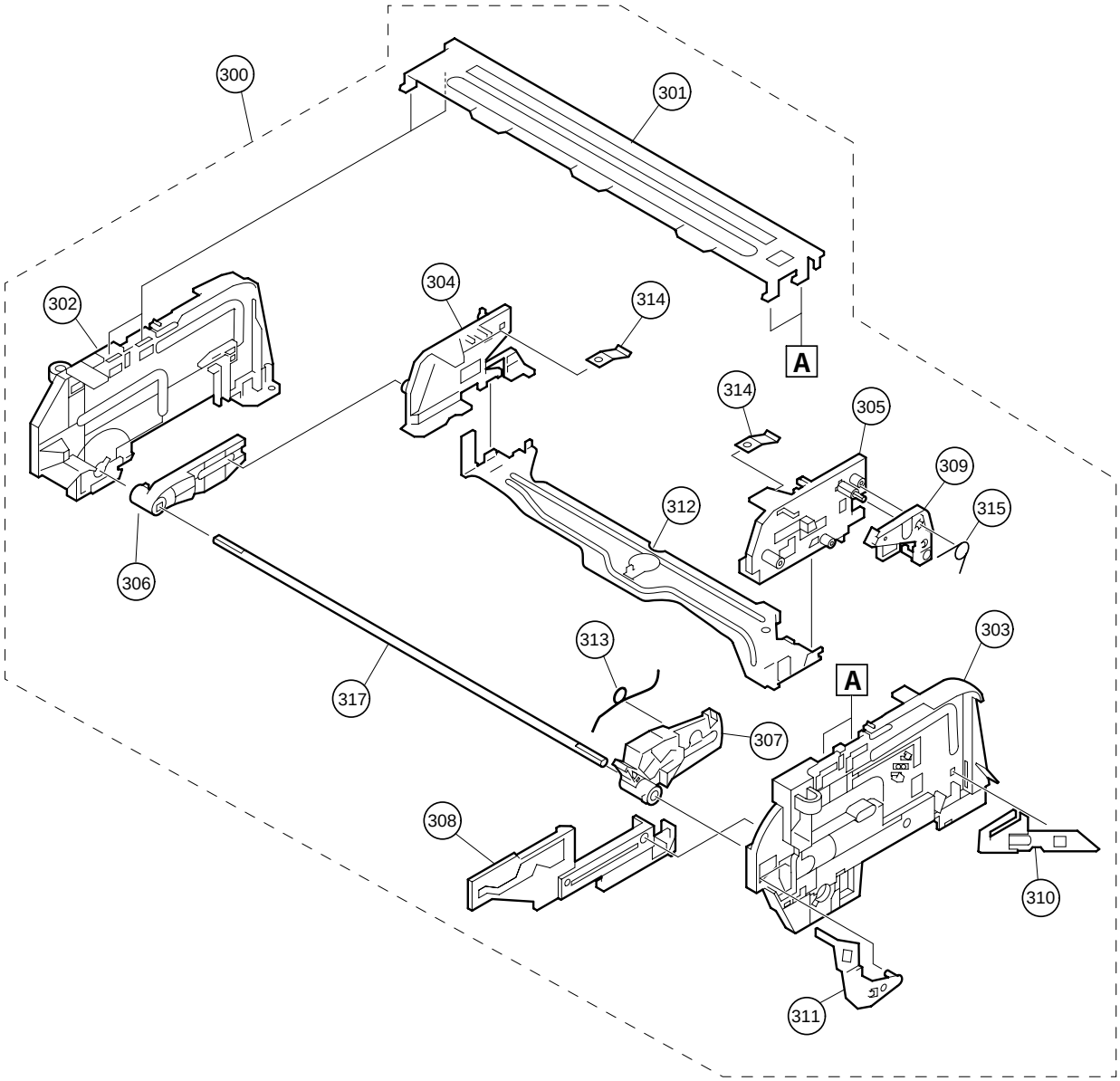
	SPAKCA032WJZZ	-	Packing Case (A10)	–
	SPAKCA033WJZZ	-	Packing Case (A10S)	–
	SPAKC5696AJZZ	-	Packing Case (A50)	–
	SPAKC5705AJZZ	-	Packing Case (A50S/A50SB)	–
	SPAKC5265AJZZ	-	Packing Case (A500L)	–
	SPAKCA042WJZZ	-	Packing Case (A60)	–
	SPAKCA043WJZZ	-	Packing Case (A75)	–
	SPAKC5697AJZZ	-	Packing Case (A80S)	–
	SPAKX1152AJZZ	-	Buffer Material	–
	SSAKA0001AJZZ	-	Polyethylene Bag	–
	TLABV0182AJZZ	-	Bar Code Label	–

11. EXPLODED VIEW OF MECHANICAL PARTS

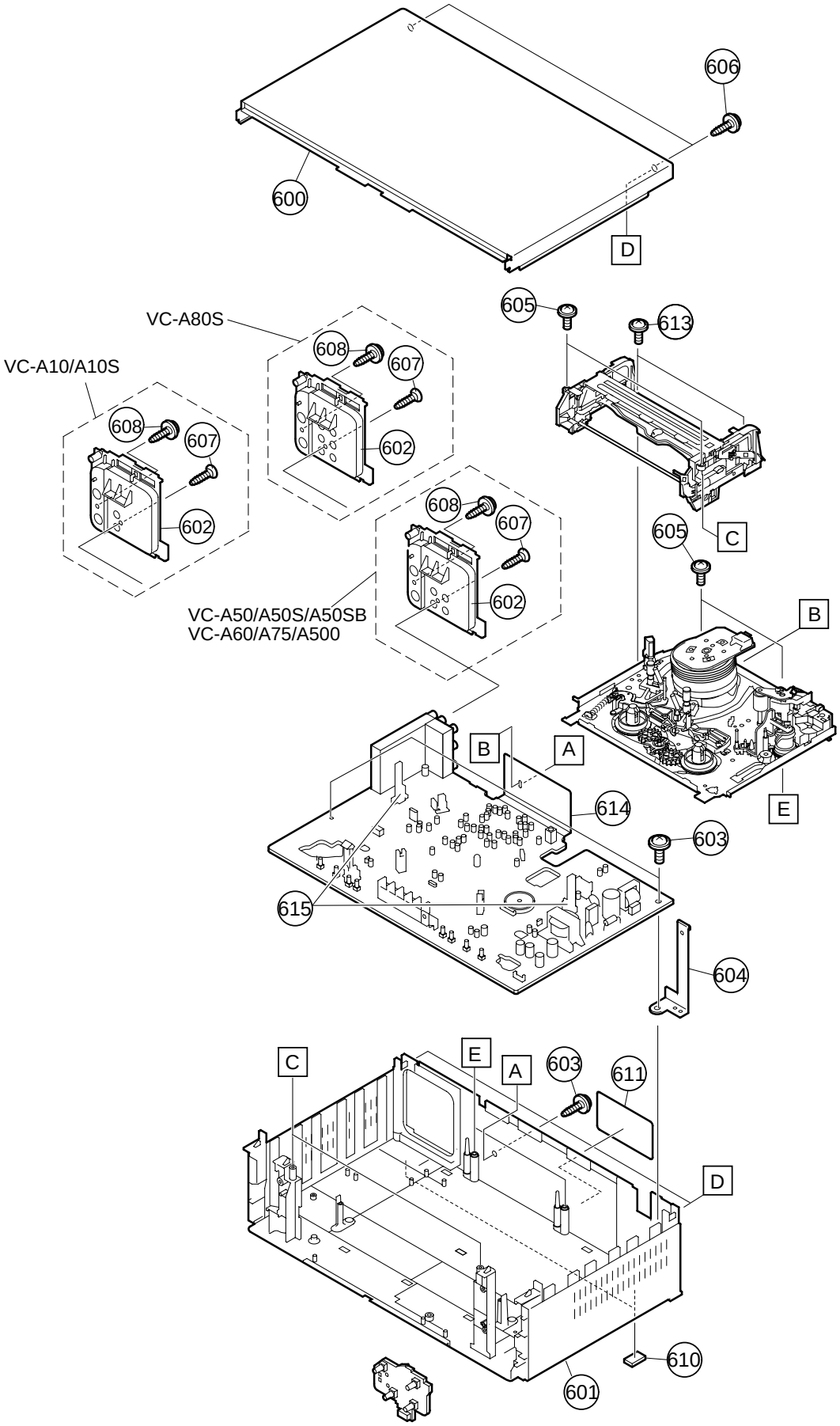
MECHANISM CHASSIS PARTS



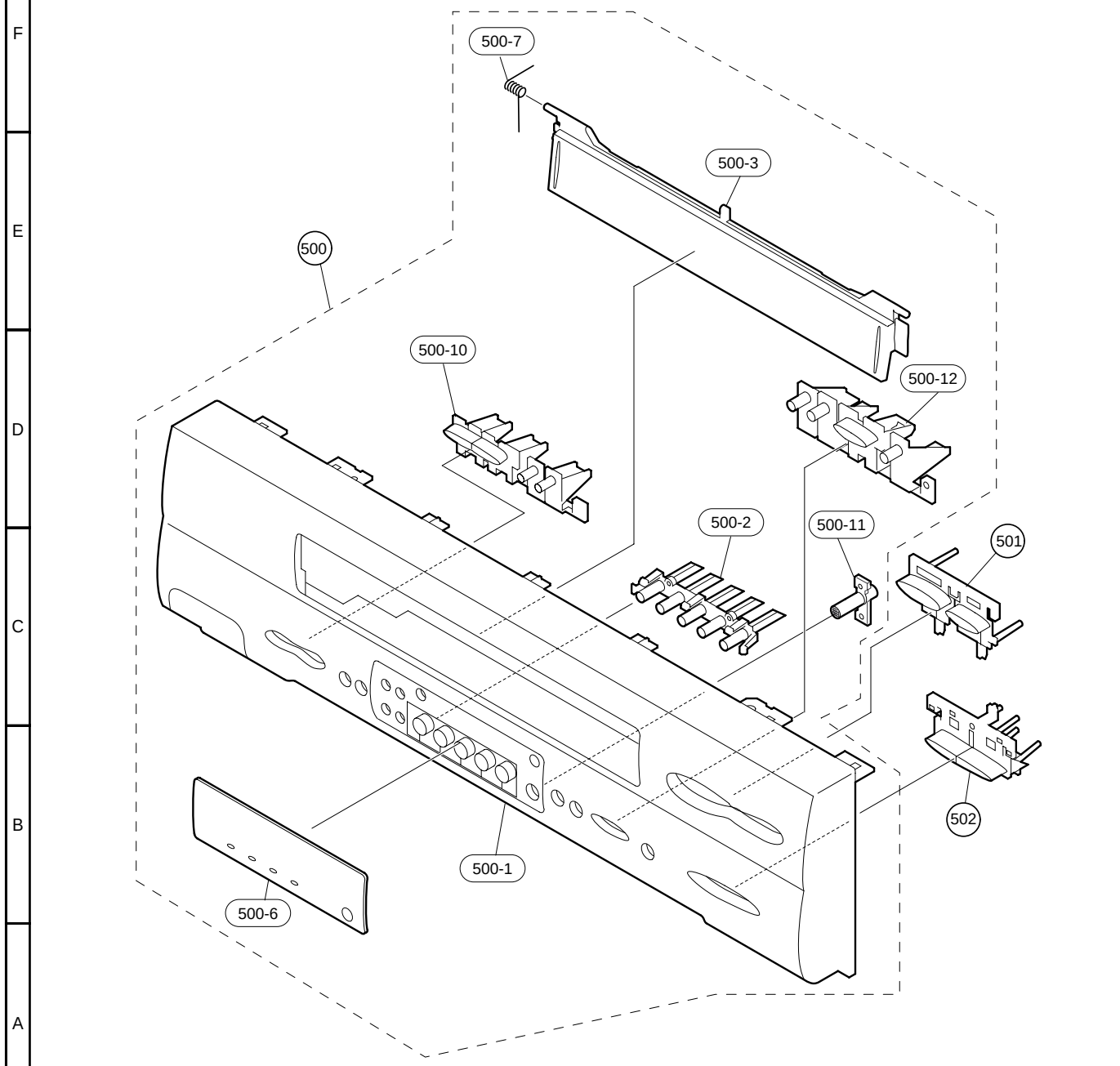
CASSETTE HOUSING CONTROL PARTS



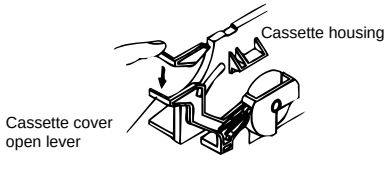
CABINET PARTS



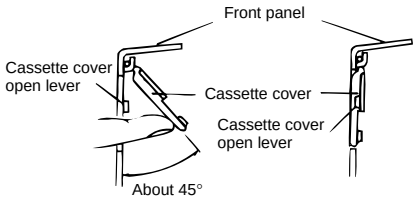
FRONT PANEL PARTS(VC-A10/A10S/A50/A50S/A50SB/A60/A75/A80S)



PRECAUTION ON FRONT PANEL SET-UP

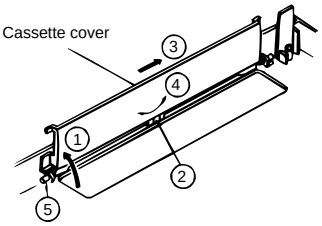


Before attaching the front panel in position, make sure that the cassette cover open lever is in its right place (lower-most). If it is out of position, push it down with a finger.



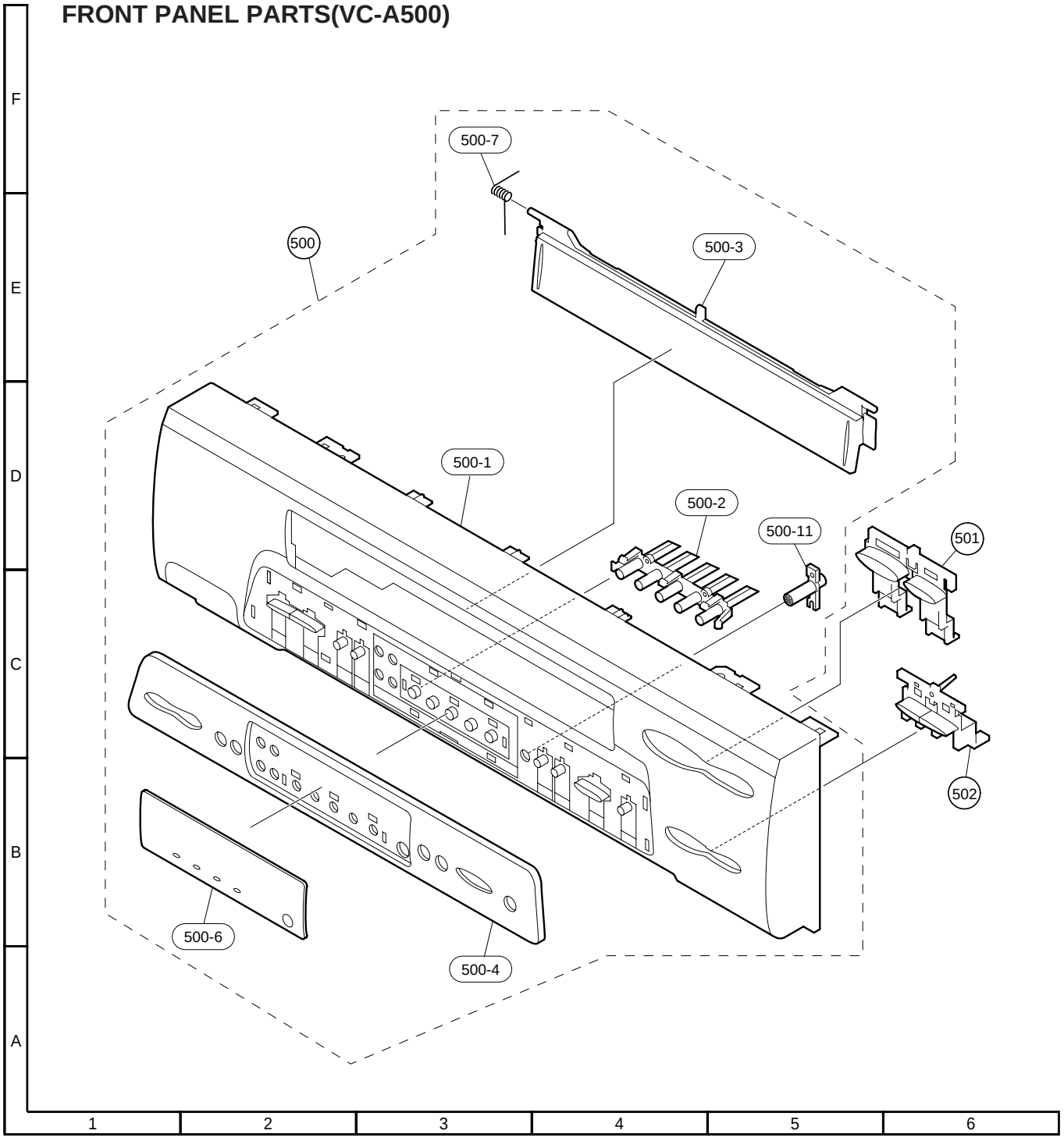
Keep the cassette over about 45° open and make sure that the cassette cover open lever is between the front panel and the cassette cover. Now fix the front panel in place.

Do not mount the front panel with the cassette cover tilted too open. Otherwise the cassette cover might wrongly run on the cassette housing.

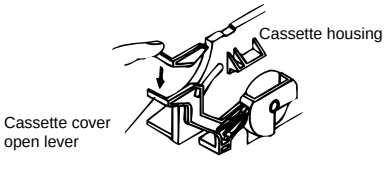


Removing the cassette compartment cover.
① Open the cassette compartment cover fully.
② Remove the center positioner.
③ Slide the cover to the right.
④ Slightly bend the cover.
⑤ Draw out the left-side rod.

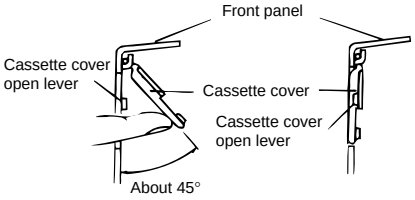
FRONT PANEL PARTS(VC-A500)



PRECAUTION ON FRONT PANEL SET-UP

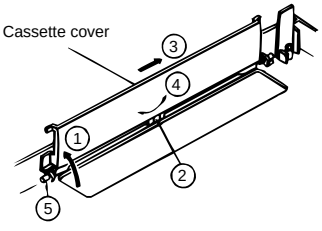


Before attaching the front panel in position, make sure that the cassette cover open lever is in its right place (lower-most). If it is out of position, push it down with a finger.



Keep the cassette over about 45° open and make sure that the cassette cover open lever is between the front panel and the cassette cover. Now fix the front panel in place.

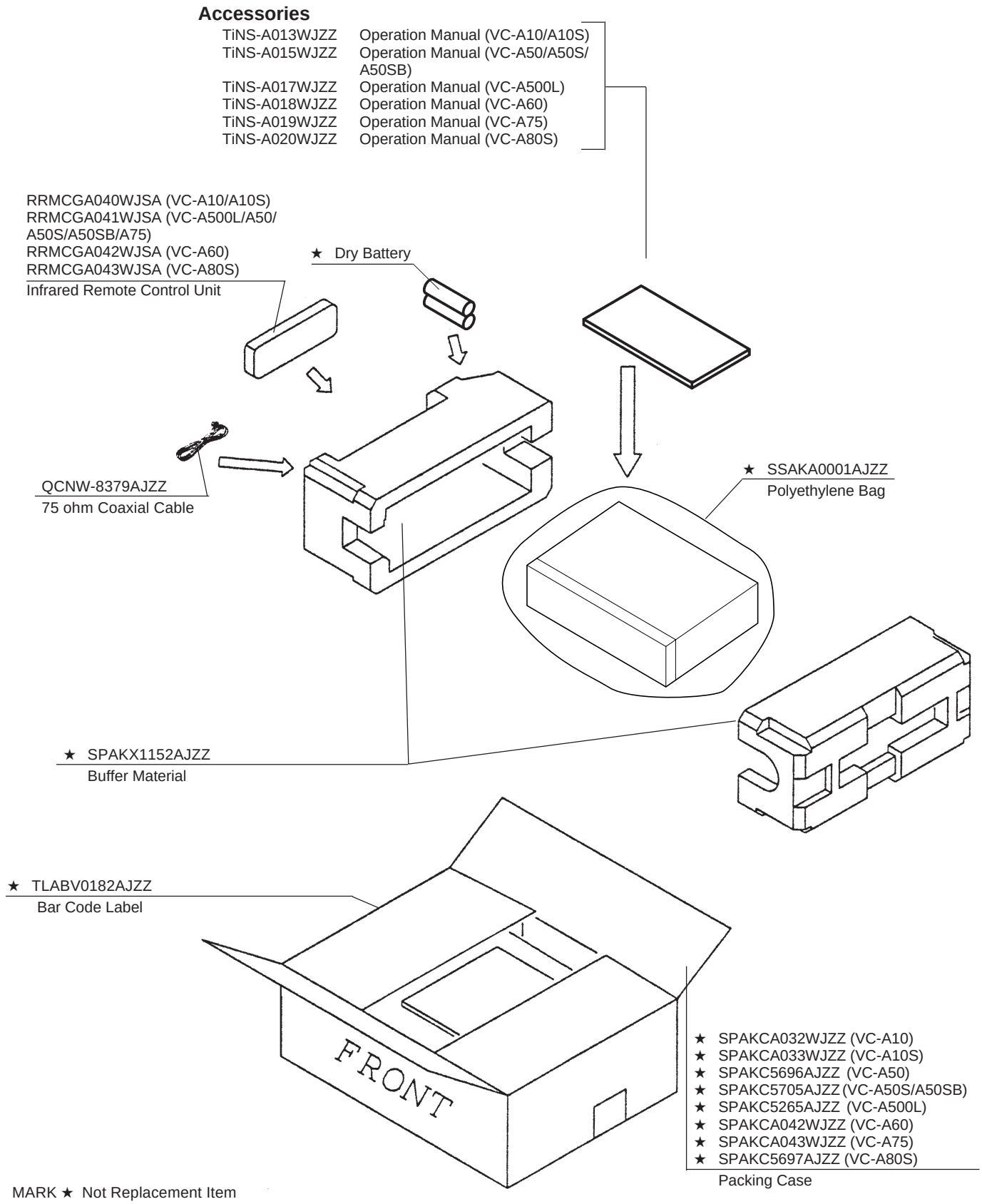
Do not mount the front panel with the cassette cover tilted too open. Otherwise the cassette cover might wrongly run on the cassette housing.



Removing the cassette compartment cover.
① Open the cassette compartment cover fully.
② Remove the center positioner.
③ Slide the cover to the right.
④ Slightly bend the cover.
⑤ Draw out the left-side rod.

12. PACKING OF THE SET

■ Setting position of the Knobs



MARK ★ Not Replacement Item

VC-A10/A10S/A500
VC-A50/A50S/A50SB
VC-A60/A75/A80S

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